9/30/2019

***In accordance with 36 CFR §218, Bark and NEST hereby object to the Environmental Assessment ("EA") and draft Decision Notice for the North Clack Timber Sale.***

*Responsible Official:* Richard Periman, Forest Supervisor, Mt. Hood National Forest

*Objection Period End Date:* October 1, 2019

*Location:* North Fork Clackamas Watershed, Clackamas River Ranger District, Mt. Hood National Forest

**Objector's Interests & Participation:**

Lead objector Bark is a non-profit organization based in Portland, Oregon and has worked to protect the MHNF since 1999. Bark's mission is to bring about a transformation of public lands on and around Mt. Hood National Forest (MHNF) into a place where natural processes prevail, where wildlife thrives and where local communities have a social, cultural, and economic investment in its restoration and preservation. Bark has over 25,000 supporters[1] who use the public land lands surrounding Mt. Hood, including the areas proposed for logging in this project, for a wide range of uses including, but not limited to: hiking, skiing, nature study, non-timber forest product collection, spiritual renewal, and other recreation. More than 150 Bark members and volunteers visited the North Clack area during a two-week long field research campout in 2018 and many more have visited the site during hikes and groundtruthing events. The value of the activities engaged in by Bark members and staff will be damaged by the implementation of this project.

In addition, Bark staff regularly attend the Clackamas Stewardship Partners, and participated in the public input process that the group's structure allowed for this project.

The Northwest Ecosystem Survey Team (NEST) is an all-volunteer group of self-organizing, tree-climbers. Each summer, NEST volunteers take on a role as canopy surveyors, who utilize the Northwest Forest Plan's "Survey and Manage"

[1] Supporters in this case is defined as significant donors and petition-signees which Bark has identified as being active users of Mount Hood National Forest.

laws to protect ancient forests threatened by logging. NEST volunteers spent hundreds of hours in the canopy of the North Clack timber sale surveying for red tree voles.

As required by 36 C.F.R. § 218.8(d), the lead objector's name, address, telephone number and email:

Michael Krochta, Bark
P.O. Box 12065
Portland, OR 97212
503-331-0374, michael@bark-out.org

## VIOLATIONS OF LAW, REGULATION AND POLICY

**1) Failure to protect Survey and Manage species a) violates Northwest Forest Plan and b) does not fulfill the "hard look" requirement of NEPA.**

BACKGROUND ON RED TREE VOLE PRESENCE AND SURVEYS IN THE NORTH CLACK PROJECT AREA

Red tree voles are Category C Survey and Manage species under the Northwest Forest Plan, and according to the IUCN Red List are "near-threatened". Threats to the species include loss of forest habitat and forest fragmentation. This species has limited dispersal capabilities and early seral stage forests are a barrier to dispersal. Red tree vole Habitat Areas[2] within proposed timber sales require a minimum of 10-acres and are intended to provide for the protection of the physical integrity of the nest(s) and retain adequate habitat for expansion of the number of active nests at that site. The Habitat Areas must include a buffer of one site-potential-tree height around nests on the outer edge of such polygons and include any confirmed inactive red tree vole nests that are located within 100 meters (330 feet) of a confirmed active red tree vole nest.

According to the North Clack Red Tree Vole Report, "most stands with the highest likelihood of having red tree vole nests" (which the agency interpreted as pure old-growth stands or stands considered suitable northern spotted owl) were dropped in the early planning phase for the project. However, 819 acres of forest across 22 proposed units met the survey protocol prerequisite[3], and the FS contracted surveys that were conducted using ground-based transects.

[2] https://www.blm.gov/or/plans/surveyandmanage/files/mr-rtv-v2-2000-09-att1.pdf

[3] https://www.blm.gov/or/plans/surveyandmanage/files/sp-RedTreeVole-v3-0-2012-11.pdf

These detected red tree vole presence in four proposed treatment units[4], resulting in 94 acres of proposed logging being dropped from the project.

At this time, NEST was informed by Bark that surveys for the red tree vole were underway in the North Clack project. NEST volunteers have been locating previously undiscovered red tree vole nests in federally proposed timber sales for nearly 20 years.[5] NEST is led by a professional red tree vole surveyor, Nicholas Sobb[6] who has been surveying for red tree voles in a volunteer and professional capacity since 2001. In 2006, Nicholas Sobb was trained by two of the leading red tree vole researchers, Eric Forsman and Jimmy Swingle, on how to properly collect data on the red tree vole. He has worked in four different Bureau of Land Management resource areas and three different Forest Service Ranger Districts under eight wildlife biologist as a climber and ground surveyor.

From September 2018 to August 2019, NEST climbed approximately 175 trees in the project area and found approximately 70 active and inactive nests that were not detected during the original FS-contracted ground-based surveys, because they could not be seen from the ground. The determination of the status of each nest (active, inactive, etc.) was based on the red tree vole survey protocol currently used by the FS.

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[4] Unit 80, and parts of units 76, 132, and 142

[5] NEST volunteers have located red tree vole nests numerous National Forests and Bureau of Land Management Forests. Their data has been accepted by the Willamette National Forest, Umpqua National Forest, Coos Bay Bureau of Land Management and the Eugene Bureau of Land Management. Wildlife biologist Kurt Lundstrom, of the Middle Fork Ranger District of the Willamette National Forest, has field verified red tree vole nests discovered by NEST volunteers in the Clark timber Sale and the Straw Devil Timber Sale. Dr. Eric Forsman and James Swingle have also verified red tree vole nests discovered by NEST volunteers in June of 2006 in the Trapper Timber sale in the Mckenzie District of the Willamette National Forest. These nest sites in Trapper were then verified by contract climbers under the supervision of the wildlife biologist Shane Kamrath. NEST's findings have also been verified by contract climbers working under the supervision of a wildlife biologist in the Wagon Road Pilot Project in the Coos Bay BLM, Second Show timber sale in the Eugene Bureau of Land Management and NEST's findings have been field verified in the Quartz Integrated Project of the Cottage Grove Ranger District. Recently, in the Lang Dam project in the McKenzie River District of the Willamette National Forest, biologist Ruby Seitz accepted NEST's 11 nest findings as is, without any 3rd party verification because of the long history of highly legitimate RTV nest findings throughout NEST's 18 years of existence.

[6] Nicholas Sobb has demonstrated expertise in identification of red tree vole nests that has been repeatedly sufficient for both the Forest Service and Bureau of Land Management for whom he has worked both as a red tree vole climber and ground surveyor. NEST volunteers surveying in the North Clack Project were trained and supervised by Nicholas Sobb. The volunteers received on average 40 hours of instruction on how to identify and document red tree vole nests. Before conducting any of their own surveys, volunteers were shown several nests in different trees. They also spent a few days on the ground helping with data collection. If there is any doubt to the validity of a red tree vole nest found by another volunteer Nicholas Sobb would re-climb the tree to verify the volunteer's findings. When a trained volunteer climbs and discovers a new red tree vole site, the climber takes a sample and a photo.

These findings were shared with the FS in a series of six submissions, starting in October 2018 and ending in August 2019. Each nest found was sampled for resin ducts, red tree vole fecal pellets, and when appropriate, cuttings. These samples were labeled with the nest tree number and submitted to the FS along with coordinates for each site and photos of all the nests on a CD-ROM. Nest trees were then marked in the field as described in NEST's six data submissions.

NEST's findings in North Clack showed that simply running transects and looking nests from the ground was not sufficient in locating red tree vole nests.[7] Their results are in agreement with Swingle's statements that "Comparisons of nests located by visual searches from the ground versus nests located by following radio collared voles indicated that many active nests could not be seen from the ground, and that nests located by visual searches were biased towards large nests…Our results also indicated that a management approach based only on the protection of active nests detected during ground based surveys will result in the destruction of large numbers of nests not detectable from the ground." [8]

NEST and Bark pointed out in PA comments that the current survey protocol[9] gives guidelines for biologists to do individual tree examination or sampling. The protocol itself states "(t)he primary objective of the protocol is to determine the presence of active red tree vole nests" and recognizes that some old-growth conifer stands have conditions that make it exceptionally difficult to detect red tree vole nests from the ground.[10] The FS's interpretation of the red tree vole

[7] A tree vole nest can be the size of a fist to upwards of 90cm cubed. While a 90 cm cubed nest is visible from the ground if it is in the lower third of the canopy, it is not visible if you cannot see into the canopy. Which is the case for most of the legacy trees in the N. Clack Sale. A fist sized nest is never visible from the ground nor in the upper canopy. Also research by Eric Forsman and Jimmy Swingle indicate that RTV nests are usually in the upper 3rd of the canopy, thus not likely to be easily visible. These findings are inline with NEST's experience and the data from North Clack. A vast majority of them are not only in the upper 3rd, but at the very top of the tree when it is a broken top. The nests in broken top cavities are often large multi-generational nests. Cavity nests that are probably less likely to be predated because cavity nests provide protection than nests out on branches cannot provide. These cavity nests are also well protected against the elements so often there will be a multitude of layers created by each successive generation. Cavity nests are likely to be important to the persistence of a given tree vole population at the local level.

[8] Swingle, J.K. 2005. Dailey activity patterns, survival, and movements of red tree voles (*Arborimus longicaudus*) in western Oregon. M.S. thesis, Oregon State University, Corvallis, Oregon.

[9] Huff, R., K. Van Norman, C. Hughes, R. Davis, and K. Mellen-McLean. 2012. Survey protocol for the red tree vole, *Arborimus longicaudus*, (= *Phenacomys longicaudus* in the record of decision for the Northwest Forest Plan version 3.0, November 2012. USDA Forest Service and USDI Bureau of Land Management. Portland, Oregon.

[10] Many of the stands in the North Clack have conditions that would make it extremely difficult to determine the presence of active red tree vole nests without doing some type of sampling. Unit 124, like many units in the North Clack Timber Sale, contains very tall old-growth legacy trees with an understory of younger trees. It's almost impossible to see into these legacy trees despite the protocol's good advice on what trees to select for sampling: "trees to be climbed or examined should include

survey protocol led to a gross under-representation of red tree vole colonies present in the North Clack Timber Sale.

In PA comments, Bark and NEST requested that the agency accept and verify the data submitted by NEST and use it to create new habitat buffers and when appropriate add to habitat buffers already created. We also recommended that the FS resurvey using individual tree examination method and provided GPS data on numerous legacy trees that had yet to be climbed. We stressed that buffers must be identified in sale and NEPA documentation before the agency can truly determine No Impact on Survey and Manage Species as they did in the PA.

Further, we supported the FS's commitment to continue to consider new information regarding red tree voles in their planning process after the Decision for this project is signed: "Red tree vole surveys have been completed to protocol. **However, there is the possibility that new red tree vole sites may be found, even after a decision is made for this project. As they are confirmed and validated, additional deletions or buffers would be incorporated where appropriate.**" *PA at 25.*

PROPOSED RED TREE VOLE BUFFERS DO NOT PROTECT "BEST AVAILABLE HABITAT"

In 2019, at the direction of the District Ranger, the FS contracted out the climbing of additional trees[11] consistent with draft survey protocols under development by USDA FS Region 6.[12] After verifying and validating nest sites found by Forest Service contract crews and those found by NEST, the Management Recommendations document was referenced by the agency in their creation of management areas around the "best available habitat."

The Red Tree Vole Management Recommendations states its objectives are to:

1. Maintain the physical integrity of the habitat at active and undetermined sites;
2. Maintain red tree vole populations at sites where they currently occur;

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trees with large limbs, defects, cavities, broken tops, mistletoe brooms, or other features that may provide for stable nest structures."

[11] The following units or portions of units were resurveyed: 43, 46, 48, 71, 72, 76, 79, 90, 96, 106, 108, 112, 114, 116, 124, 131, 132, 133, 134, 142, 144, 176, 178, 179, 188, 190, 191, 196, 198, 200, 202, 203, 204, 206 and 212.

[12] Huff, R., and C. Marks-Fife. *In review*. Survey protocol for the red tree vole, *Arborimus longicaudus*, (= *Phenacomys longicaudus* in the record of decision for the Northwest Forest Plan version 4.0, April 2017. USDA Forest Service and USDI Bureau of Land Management. Portland, Oregon.

3. Prevent the inadvertent loss of red tree voles at sites where the species is assumed to occur but were not detected due to incomplete surveys.

The FS's second round of surveys discovered approximately 50 active and 50 inactive nests out of 250 trees climbed. The portions of the management areas that overlapped with proposed harvest units resulted in deleting all or portions of several units. As a result there was a reduction of 287 acres of proposed treatments (in addition to the 94 acres deleted earlier) detailed in the North Clack Draft Decision.

Bark and NEST reviewed the North Clack Red Tree Vole Adjustments in the Draft Decision Notice Appendix A and found significant problems with the layout of units 4, 6, 18, 94, 106, and 198 - all of which require modification to protect the "best available habitat" contained there. The FS violated NFMA by failing to comply with NWFP requirements for the survey and management of red tree vole sites in the project area. The plan designates the red tree vole as a Category C "uncommon" species. As such, FS is required to "manage all known sites" until high-priority and non-high-priority red tree vole sites are determined. The NWFP defines a "known site" as the "historic and current location of a species reported by a credible source, available to field offices, and that does not require additional species verification or survey by the Agency to locate the species." The plan adds that a "credible source" may include "amateurs" and "private individuals" provided they have sufficient "academic training and/or demonstrated expertise" in identifying the species.

NEPA mandates that an agency take a "hard look" at a proposed project's environmental consequences, adequately considering every significant aspect, and informing the public of its reasoning and conclusions. NEPA "emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that the agency will not act on incomplete information." In the recent case regarding the White Castle Timber Sale, the Courts found that BLM violated NEPA when not take a "hard look" at environmental impacts when it rejected NESTs data without sufficient consideration or explanation. *Oregon Wild vs. BLM,* 2015 WL 1190131 *12 (D.Or).

Here, NEPA did not necessarily require the FS to accept the NEST data or even to independently verify it, but it required appropriate consideration of the data and a coherent explanation for rejecting it. This is especially relevant given the FS's previous commitment to buffer new red tree vole nests

appropriately when they are found, even after the project's Decision has been signed.

Below we detail our recommended remedies to our primary objection - that the currently proposed Management Areas do not protect the best available red tree vole habitat as is required by the Northwest Forest Plan, nor do they fulfill the "hard look" requirement of NEPA.

REQUESTED REMEDIES

**Units 4 and 6**

On 8/9/19, NEST shared with the FS locations of 2 active nests in Unit 6 and 1 active nest in Unit 4. These nests did not receive Management Areas in the North Clack Draft Decision. In addition to these active nests, Bark has also located 9 late seral trees (shown below) within general proximity of the known nests (within 100 meters) in these two units.

To ensure that the best habitat is protected through the creation of Management Areas, two proposed 10-acre buffers (one centered on the active nest in Unit 4, and one centered on the two active nests in Unit 6 as shown below) should be created which include the late seral trees which will act as suitable trees for dispersal of the existing population of this species.

This action is consistent with the agency's commitment to continue to consider new information regarding red tree voles in their planning process after the Decision for this project is signed: "Red tree vole surveys have been completed to protocol. **However, there is the possibility that new red tree vole sites may be found, even after a decision is made for this project. As they are confirmed and validated, additional deletions or buffers would be incorporated where appropriate.**" *PA at 25.*

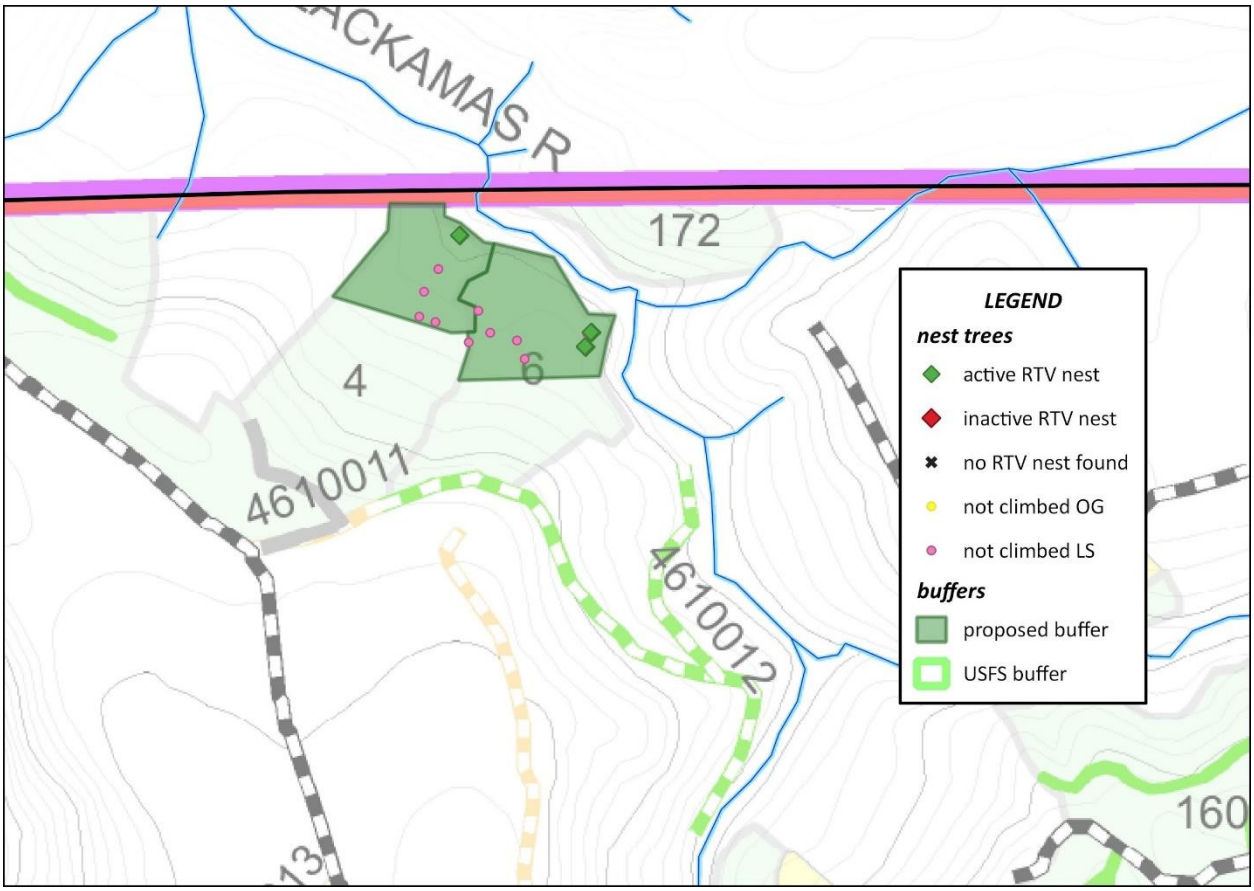



*Fig. 1: Objectors' proposed remedy for units 4 & 6*

**Unit 18**

On 6/10/19, NEST shared with the FS the location of 1 active nest in Unit 18. This nest did not receive a Management Area in the North Clack Draft Decision. NEST only had a chance to fully climb one tree in Unit 18 and located an active nest. This indicates an extremely high likelihood of additional active nests in the area and a strong rationale for placing a Management Area around the *known* active nest.

The Red Tree Vole Management Recommendations states that "(i)n situations where a survey is not completed and a stand is assumed to contain active nests, the Habitat Area that is delineated should include the portion of the stand where the habitat is assumed to be occupied, plus one site potential tree distance around the periphery."

The FS is required to protect individual nest sites, not just clusters of multiple nests. The Red Tree Vole Management Recommendations states that the "guidelines for delineating Habitat Areas provide incrementally greater

protection for sites with a higher number of nest trees, and maintain sites with only one or few nests to preserve management options in the future."

Given that that several more suitable trees exist in this unit, we ask that a 10-acre buffer be placed over the known active nest (shown below) so that the surrounding habitat and likely additional nests are protected.

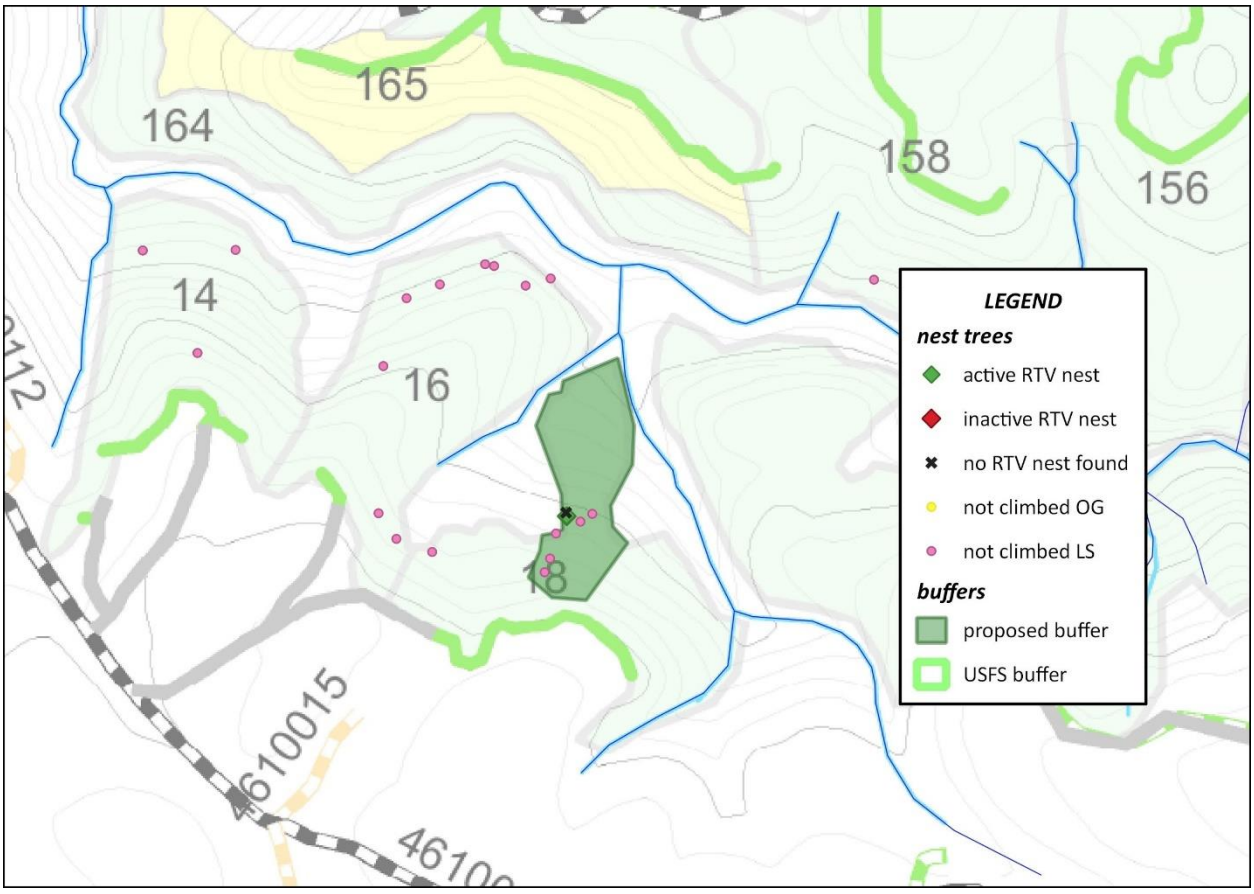



*Fig 2: Objectors' proposed remedy for unit 18*

**Unit 92 and 94**

On 7/18/19 and 8/9/19, NEST shared locations of 10 inactive nests in Unit 92, as well as 3 active and 1 inactive nest in Unit 94. Since these nests in addition to nearby ones located by FS-contracted climbers are clustered to an area where the most distant trees including active nests do not surpass being 100 meters apart, a modified Management Area is required that includes the inactive nest trees in Unit 94.

For a case like this, the Red Tree Vole Management Recommendations states that "(t)he Habitat Area that is delineated for sites with greater than 10 nests is either 1.0 acre per nest, or a polygon encompassing the site, whichever is greater and must include a one site potential tree buffer around nests on the outer edge of such polygons."

Furthermore:

"The Habitat Area should be the greater of the following:

1) The site(s) represented by the point or polygon described above, plus one site potential tree height surrounding the point or polygon;

OR

2) 1.0 acre multiplied by the number of all nest trees (of all types, including those that are confirmed inactive) contained in the site plus one site potential tree around the outer nests of a cluster of nests;

OR

3) 10 acres, when the total number of nest trees is less than 10, maintaining one site potential tree height between the nest tree and the habitat area boundary."

In addition to meeting this clustered nest requirement, changing the buffer to include the inactive nests in Unit 94 also protects the best habitat - since red tree voles clearly have been very active in this part of the stand before. The Red Tree Vole Management Recommendations states that "(i)f the habitat containing the inactive site is currently suitable for red tree voles, or is anticipated to achieve the desired condition through natural processes, then no treatment would be needed." The draw that extends down between unit 92 and 94 is high quality late seral habitat which will provide additional habitat connectivity for the species in this area.

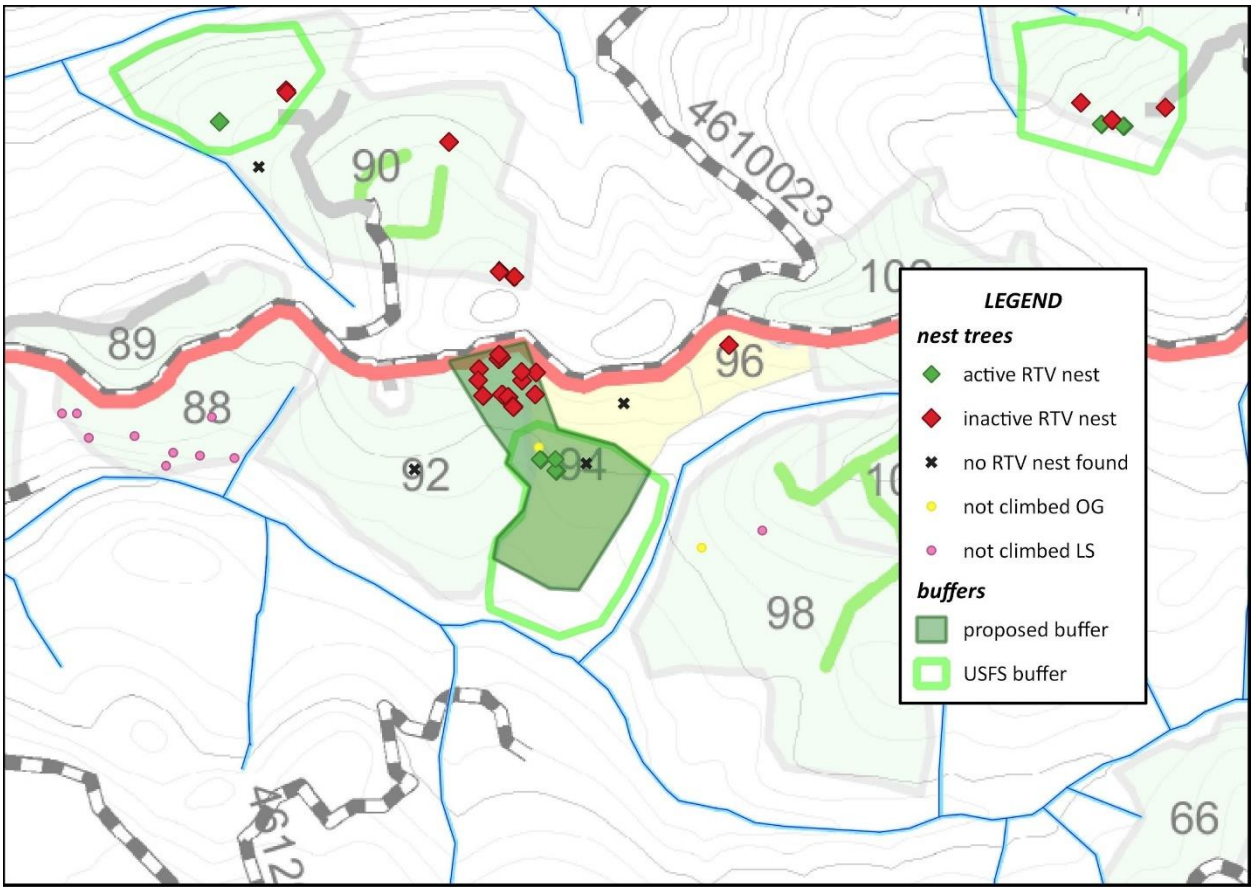



*Fig. 3: Objectors' proposed remedy for units 92 & 94*

## Unit 106

On 10/17/18, NEST shared with the FS the location of 1 active and 1 inactive nest in Unit 106. In the Draft Decision, approximately half of the Management Area drawn for this unit includes a stand which is separated from the area containing the nests by FSR 4610-120 and a connected spur. To provide the best habitat connectivity for the species, the FS should adjust the buffer area to include a larger section south within Unit 106 that would not require a red tree vole to cross two roads to disperse to.

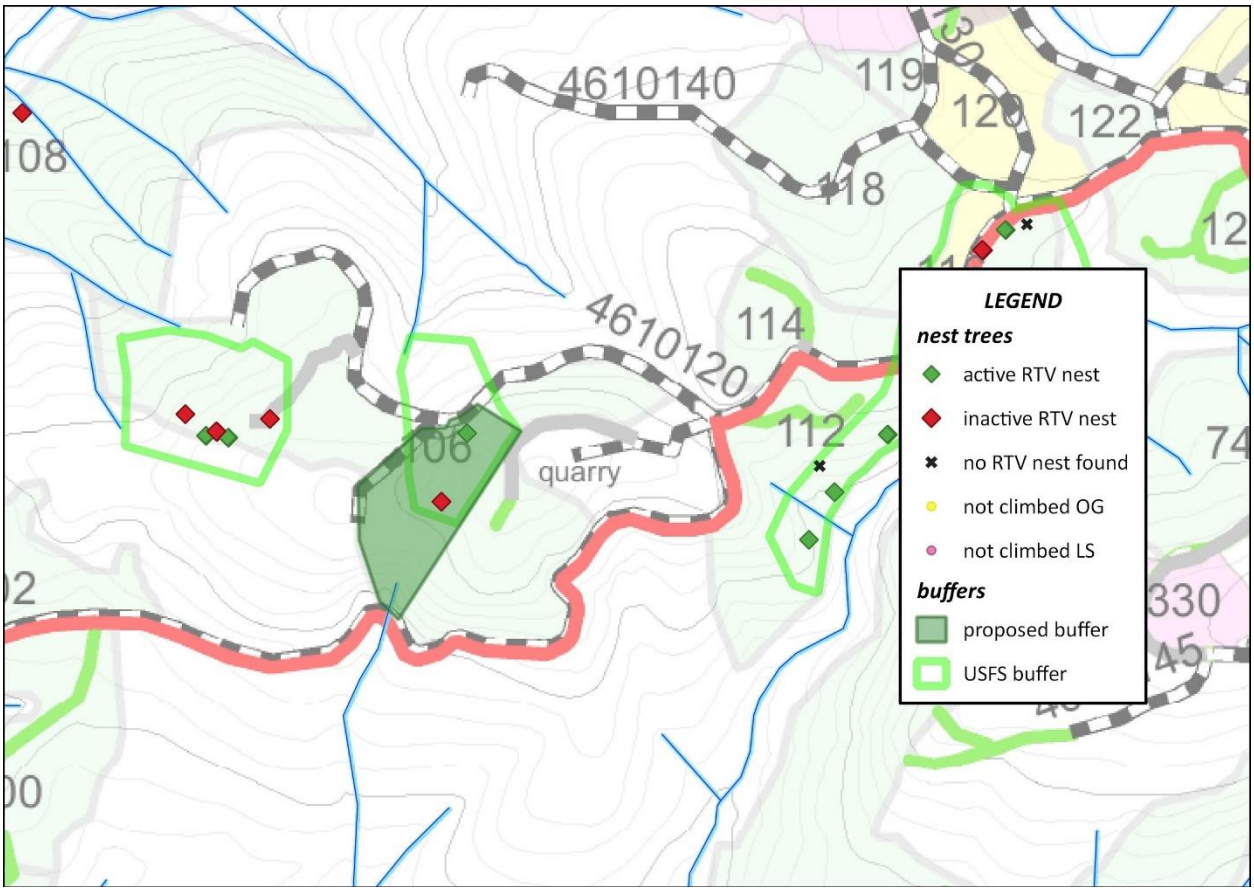



*Fig 4: Objectors' proposed remedy for unit 106*

**Unit 198**

On 12/24/19, NEST shared with the FS the location of 1 active nest in Unit 198, near the boundary with Unit 350. The data submitted included a typo which indicated that the nest was inactive (INAC-MO), however evidence of an active nest included fresh cuttings, scat and resin ducts - all of which were included on NEST's data submitted for this unit. Present at the tree during the climb was a reporter from the Oregonian (Kale Williams), as well as Bark staff who witnessed these samples being taken. To protect this active nest, the FS should delineate a 10-acre Management Area as shown below - which provides additional connectivity to the one already delineated in the eastern part of the unit.

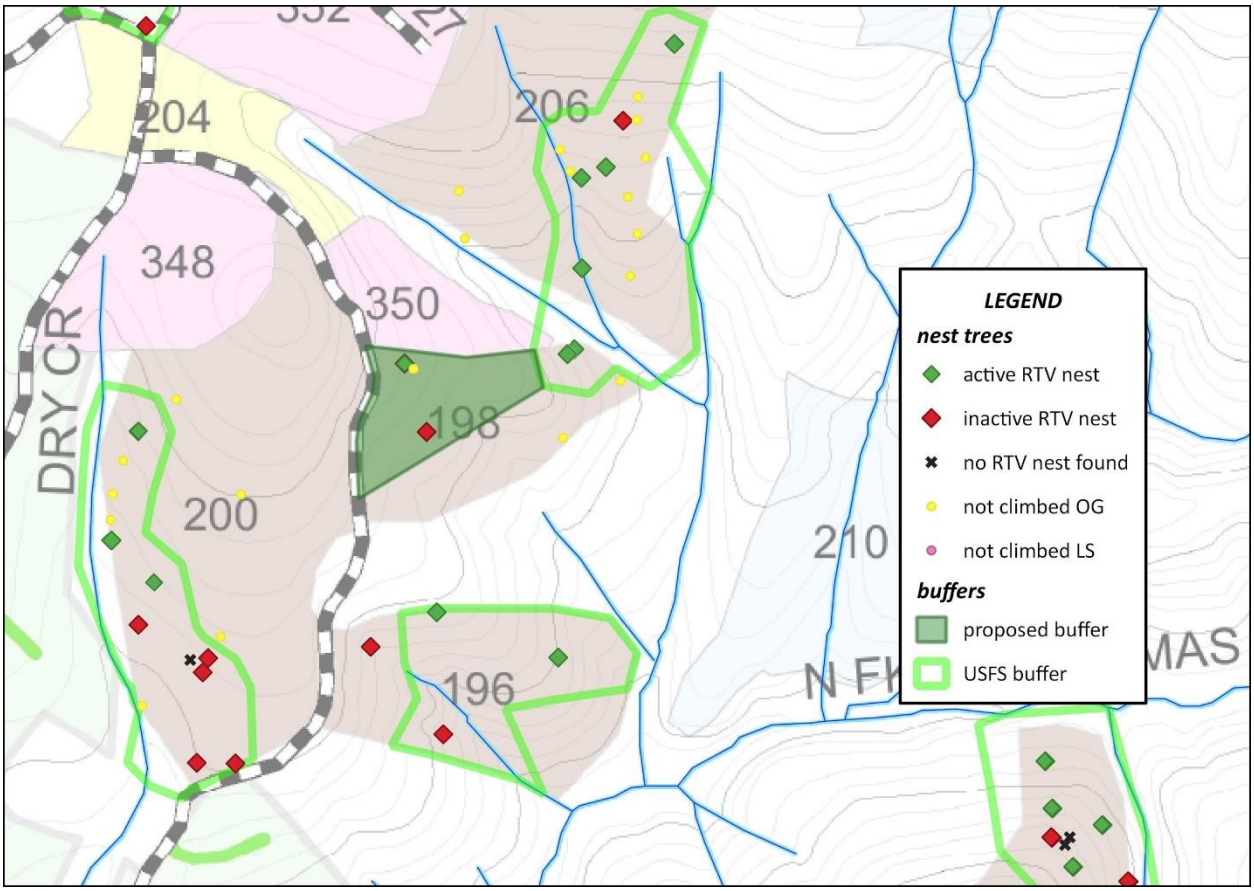



*Fig. 5: Objectors' proposed remedy for unit 198*

**2) Failure to accept information relevant to analysis violates NEPA**

Complying with NEPA does not simply mean jumping through a series of procedural hoops; rather, it is essential that a federal agency actually engage with the information and concerns presented by the engaged public and reflect this engagement in its decisions. See *Or. Natural Desert v. BLM,* 625 F3d 1092, 1099–1100 (9th Cir. 2010) ("NEPA relies upon democratic processes to ensure … that 'the most intelligent, optimally beneficial decision will ultimately be made.").

Despite objectors' repeated requests for the Forest Service to review and discuss site-specific data submitted throughout the NEPA process, it consistently failed to do so, violating NEPA's "hard look" requirement. See e.g. *Blue Mts. Biodiversity Project v. Blackwood,* 161 F.3d 1208, 1213-14 (9th Cir. 1998) (holding EA inadequate where it failed to reference material containing scientific viewpoints opposing agency's conclusions about the environmental consequences of post-fire logging); *N. American Wild Sheep v. USDA*, 681 F.2d 1172, 1179 (9th Cir.

1982) (agency failed to take the requisite 'hard look' where "significant questions raised by respondents to the initial draft of the EA were ignored or, at best, shunted aside with mere conclusory statements."); 40 C.F.R. § 1500.1(b) (government has a duty to use high quality information and accurate scientific analysis).

Below are categories of information submitted by objectors which was not accepted and responded to by the FS during the NEPA process and include suggestions for resolution through requested remedy:

***System roads***

Given that the FS considered changes to a number of miles of roads within the North Clack project area, and given the large geographic scale of this project, the FS is directed to consider its Travel Analysis Report (TAR) for the Forest, and identify the Minimum Road System (MRS).[13]

To identify the minimum road system, the FS must consider whether each road segment the agency previously decided to maintain on the system is needed to meet certain factors outlined in the agency's own regulation.[14] In assessing specific road segments, the FS should consider the risks and benefits of each road as analyzed in the TAR, and whether the proposed road management measures are consistent with the recommendations from the Report.

MHNF staff have expressed to Bark that while considering road work in proposed project areas, it is appropriate to recommend that the FS consider changes in maintenance levels on roads with specific issues such as *high combined resource risk* along with those recommended by the TAR for decommissioning.

We submitted several specific comments re: system roads in the North Clack project area in our scoping comments, and again in our PA comments, all of which are summarized in the table below. These comments were not addressed in the PA or the Draft Decision, violating NEPA. From our PA comments: "Bark includes them here again since some will be roads that we will be bringing up again via the Pre-decisional Objection process if not addressed in the final EA":

[13] 36 C.F.R. § 212.5(b)(1) ("For each national forest . . . the responsible official must identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands.").

[14] 36 C.F.R. § 212.5(b)(1). *See also* Attachment A ("analyze the proposed action and alternatives in terms of whether, per 36 CFR 212.5(b)(1), the resulting [road] system is needed"); ("The resulting decision [in a site-specific project] identifies the [minimum road system] and unneeded roads for each subwatershed or larger scale").

**Table 1: Objectors' system roads comments**

| FSR # | Notes | Recommendation |
|---|---|---|
| 4610022 | Breached closure, proximity to illegally built trails, crosses riparian areas | Effectively block with boulders and slash, do not use for accessing Unit 90 |
| 4610011 | Fully decommissioned, drops off steeply towards N. F. Clackamas, wet and rocky terrain would be accessible to nearby OHV use | Allow no road rebuilding or log haul on the already decommissioned portion of the road |
| 4614120 | Scoping roads map lists "Already Closed" but berm has been breached. Two deteriorating stream crossings dumping sediment into Whisky Creek. | Decommission |
| 4613160 | Scoping roads map lists "Already Closed" but no closure exists | Close with Entrance Management |
| 4613130 | Gully erosion occurring near north junction with 4613 | Close with entrance management with waterbars |
| 4613130 | Poorly-drained soils where water pools and runs down road toward Whisky Creek, culvert aging | Decommission from south end to beyond Whisky Creek |
| 4613016 | Access to illegal trail, deteriorating stream crossing dumping sediment | Decommission |
| 4613140 | Severe gully erosion | Close with entrance management with waterbars |
| 4614160 | Severe gully erosion | Decommission starting just before the 4614-150 Fall creek crossing |
| 4610150 | Several major hydrological and access issues (see Bark's scoping and EA comments) | Storm proof and close at the minimum (decommission if possible) |
| 4610155 | Breached berm | Re-close road with entrance management |
| 4610153 | Unstable bridge, damage to streambank | If no requirement to permanently keep access to the inholding, actively decommission |
| 4613200 | Not needed beyond the junction with the 4613-205 due to its redundancy (by 4613-013 and 4613-140) | Decommission |
| 4611 | Unauthorized access and poor road conditions leading to Huxley Lake, existing trailhead hard to locate | Convert road-to-trail at Unit 62 to extend Trail #521 |
| 4610040 | Closed road with breached/circumvented berm | Re-close with boulders slash and a larger berm |
| 4613205 | Dry Creek crossing is passively decommissioned | Do not actively decommission at Dry Creek crossing |
| 4611019 | Road is within Wilderness area; located on steep geologically active slope | Do not reopen for small LSR Unit 58 access |

As was noted in the EA, this project violates LRMP standards for open road density. The Forest Plan specifies that the open road density for large game wintering areas (which encompasses the planning area) must not exceed 2.5

miles/miles$^2$ for B-11 Summer Range, and 2 miles/miles$^2$ for B-10 Winter Range. The WA recommends that OHV trails should be included in this road density calculation, which it was in the PA. *WA at 4-10.* With the Proposed Action, the open road densities would change from 2.9 mi/sq mi to 2.1 mi/sq mi in Winter Range, which is still above the density spelled out in FW-208. The FS states that an exception is needed for this standard because no additional roads were identified that were suitable for closure. Bark expressed concern about both road densities that exceed LRMP road density targets as well as planned road construction within these areas that already exceed these LRMP Standards and Guidelines. An overall reduction in road-related impacts in the North Clack project area could have been found by analyzing the potential actions Bark included in Table 1 above.

Because the proposed transportation actions in the North Clack project violate LRMP standards as well as NEPA, Bark's requested remedy is for the agency to analyze and implement the actions contained in Table 1.

***"Temporary" roads and Unauthorized Motorized Routes***

Since Scoping, Bark has expressed concern about the amount of temporary roadbuilding the agency states are required to achieve the Purpose and Need in the North Clack project area. The very first aquatic recommendation of the North Fork Clackamas Watershed Analysis on 5-1 is to "**Avoid New Roads**", with a further recommendation on 5-2 to "allow no new roads or motorized trails through riparian reserves".

A total of 19.4 miles (an overall increase from Scoping) is more mileage than Bark has seen proposed by the District in one project and as the agency is well aware, these roads are vectors for stream sediment, illegal activity, disruption of wildlife, noxious weeds, and more.

As in past projects, the FS is planning to re-use previously decommissioned roads, and since many of these roads have been passively decommissioned, the agency will likely claim it will be achieving a net reduction in road density after the project when these roads are "rehabilitated". Although in different stages of recovery, every single road segment has recovered some degree of hydrologic function, and with this project would lose the benefits from those years of the recovery.

Bark brought up several concerns about temporary roadbuilding in our scoping comments. It is well-documented that road construction vastly elevates erosion for many years, particularly in the first years when the construction causes a persistent increase in erosion relative to areas in a natural condition. Specifically,

major reconstruction of unused roads can increase erosion for several years and reverse reductions in sediment yields that occurred with non-use. It is apparent that decommissioning will not eliminate the persistent impacts of roads on erosion and sediment delivery, building these roads will likely have adverse impacts to the aquatic and terrestrial environment.

Overall, road construction is by far the greatest contributor of sediment to aquatic habitats of any management activity. "Temporary" road construction can cause resource damage including erosion and sedimentation, exotic species spread and disruption of wildlife.

Another concern that Bark has raised about the proposed roadbuilding is increased access. For example, in scoping Bark recognized the "existing" temporary road into North Clack Unit 89 as originally accessing No Whisky EA Unit 21, and in scoping comments shared observations and recommendations that were copied from a 2013 agency BMP monitoring form.

Bark noted that the berm closing off the temporary road accessing North Clack units 16 and 18 (and No Whisky EA Unit 5) is barely effective at preventing motorized access from straying off the main 4610. We recommended a much larger berm with deep slash and boulders be placed after any re-use of this road as a temporary road for North Clack.

The FS states that a feasible route for a new temporary road that extends from the end of Road 4613-140 was identified to access Unit 174. This alignment is on a ridgetop above the head scarp of a dormant landslide and is likely the only feasible route that protects the stability of the earthflow. When walking this section of forest where the alignment is proposed, we observed steep drop offs on each side of the ridgetop, and the ridge itself being very narrow and rocky – surely being difficult terrain to maneuver a loaded log truck across. We requested more information on what measures will be used to protect the geology of this area and prevent additional landslides from occurring due to its current rocky steep conditions (unit-specific PDCs). We received none.

In addition to impacts from the proposed action, significant additional impacts come from illegal OHV use in the North Clack project area. NEPA requires the agency to address the impacts "on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions…cumulative impacts can result…by collectively significant actions taking place over a period of time." *40 C.F.R. § 1508.7.*

Bark is brought issue that building or rebuilding numerous roads for logging in North Clack would result in an increase of OHV access and would undo the

restoration work done to remedy the damage done by the original entries. **The cumulative effects of OHVs and timber harvest – including that proposed here, which may include construction of new skid trails and other roads were not fully considered in the subsequent analysis.**

While North Clack is under contract, roads constructed for the project could provide unregulated motorized access over the course of multiple years, as roads may be needed for more than one season. Bark requested 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 asked that any final decision 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.

***Specific Recommendations for reducing impacts from unauthorized recreational use in the North Clack project:***

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), Bark provided 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;

- 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;

- 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;

- Provide adequate Sale Administration staffing for workload, so that coverage is available when the assigned Sale Administrator is not working;

- 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;

- Require inspection by Sale Administrator before contractor's equipment is moved offsite;

- Require implementation and effectiveness monitoring of PDCs by both Sale Administrator and other specialists, including during the harvest activities; and

- After project implementation and before conclusion of the contract, fully implement and monitor effectiveness of the aforementioned activities in order to impede further damage from unauthorized motorized access to units after thinning has taken place.

These recommendations are especially crucial during re-use of established OHV trails as temporary roads (as is the case with converted **4610-115**, accessing several units), as well as when new roads are built in proximity to existing OHV trails (as is the case with converted **4611-121, 4611-125, and 4611-130** roads accessing Unit 42). We encouraged the FS to prioritize use of existing trails as temporary roads when there is a risk of expanding the illegal trail network. We requested in Scoping and in PA comments that the agency provide rationale for their decision to build a new road into the forest when OHV trails are available to re-use. **Again, the EA appears to contain the same text as the PA, so no rationale was given.**

***Existing illegal routes***

In scoping and again in PA comments, Bark submitted locations of illegal trails and breached closures found within the North Clack project area. Table 2 below includes routes that we recommend obliterating through the North Clack project. From our PA comments: "Bark includes them here again since some will be routes that we will be bringing up again via the Pre-decisional Objection process if not addressed in the final EA". Since Scoping, new unauthorized routes have

been created in the North Clack area. Not all routes were not addressed in the final EA (which does not appear to include any updates from the PA).

**Table 2: Objectors' unauthorized trail comments**

| Observation/entry point | Location |
|---|---|
| Trail #802 | 45.20595, -122.20720 |
| FSR 4610 | 45.20349, -122.13246 |
| Unit 304 | 45.21625, -122.22001 |
| FSR 4610 | 45.20369, -122.16691 |
| Trail #802 | 45.21414, -122.22047 |
| Trail #802 | 45.20479, -122.21444 |
| Trail #802 | 45.20896, -122.21930 |
| Unit 212 | 45.242543, -122.1263 |
| FSR 4613120 | 45.24345, -122.12686 |
| FSR 4613120 | 45.24309, -122.12445 |
| FSR 4613 | 45.23585, -122.11934 |
| Unit 44 | 45.18128, -122.11681 |
| Converted 4611-002 | 45.18321, -122.12349 |
| Unit 178 | 45.21232, 122.14738 |
| Unit 200 | 45.22189, -122.11846 |
| Unit 16/FSR 4610 | 45.20803, -122.10223 |
| 4613-200 (guardrail) | 45.20734, -122.14830 |
| Unit 42 | See PA comments for UTMs |
| Unit 84 | 45.20311, -122.14441 |

REQUESTED REMEDY

The agency has yet to take a hard look at the cumulative impacts of temporary roadbuilding, timber harvest and OHV use in the North Clack project area. Properly addressing these impacts would include:

- Analyzing and responding to the impacts of unauthorized routes Bark brought to the agency during scoping, PA comments, and this objection.
- Providing specific PDCs for units and roads that Bark highlighted in our NEPA comments, including rationale for any decision to build new roads when OHV trails are available to access the stand in question.
- Responding and incorporating where appropriate Bark's specific recommendations for reducing impacts from unauthorized recreational use in the North Clack project.

### *Unmapped Riparian Areas Within Proposed Units*

Bark has provided numerous locations of unmapped riparian areas within proposed North Clack units, to which the agency has given no response. In the past, we have brought to the Forest Service's attention instances where sale contract maps did not reflect all wet areas within proposed units, which resulted in ground-based logging occurring over riparian areas. We submitted some initial findings regarding unmapped riparian areas in our scoping comments, PA comments and below.

**Table 3: Unmapped riparian areas within North Clack units:**

| Unit | Location | Notes |
|---|---|---|
| 6 | 45.22666, -122.21576 | seep |
| 6 | 45.22616, -122.21482 | seep |
| 16 | 45.21000, -122.20316 | seep |
| 43 | 45.183806, -122.120231 | |
| 43 | 45.183669, -122.120281 | |
| 44 | 45.182639, -122.118331 | wet plant assoc. |
| 44 | 45.182147, -122.113747 | |
| 54 | 45.17434, -122.10879 | pond |
| 54 | 45.17485, -122.11011 | |
| 54 | 45.17461, -122.11082 | seep |
| 54 | 45. 17526, -122.10961 | seep |
| 54 | 45.17504, -122.10978 | seep |
| 54 | 45.17479, -122.11021 | |
| 54 | 45.17409, -122.10869 | stream |
| 74 | 45.206347, -122.096439 | |
| 74 | 45.207069, -122.092383 | seep |
| 88 | 45.202853, -122.136469 | intermittent stream |
| 92 | 45.201767, -122.130553 | intermittent stream |
| 92 | 45.201506, -122.132917 | seep |
| 92 | 45.201556, -122.131761 | intermittent stream |
| 94 | 45.202447, -122.128053 | seep |
| 94 | 45.202447, -122.128053 | seep |
| 102 | 45.204753, -122.118858 | seep |
| 112 | 45.206372, -122.105061 | two streams join |
| 112 | 45.206553, -122.105011 | |
| 118 | 45.209153, -122.103964 | |
| 146 | 45.214220, -122.161690 | |
| 146 | 45.21413, -122.16158 | |

| | | |
|---|---|---|
| 176 | 45.210688, -122.151013 | intermittent stream |
| 176 | 45.211406, -122.148228 | |
| 178 | 45.210831, -122.146283 | stream |
| 178 | 45.211281, -122.146408 | intermittent stream |
| 194 | 45.222231, -122.115554 | |
| 194 | 45.221387, -122.116717 | |
| 194 | 45.217264, -122.118811 | |
| 194 | 45.217372, -122.118925 | seep |
| 194 | 45.217553, -122.119239 | high water table |
| 194 | 45.218922, -122.120481 | |
| 300 | 45.195206, -122.082989 | |

REQUESTED REMEDY

The PA states that "(r)iparian features that are not perennial or intermittent streams such as seeps, springs, ponds or wetlands would be protected by the establishment of protection buffers or skips that incorporate the riparian vegetation." **To ensure these habitats are protected, we request a remedy to include buffers on these riparian areas on the project Decision maps in the form of unit boundary adjustments and subsequent acreage adjustments.**

### *North Clack Botany Findings*

Bark volunteers noted two species within proposed units which Bark recommended buffering from ground-based logging operations - *Allotropa virgata* and *Usnea longissima.* Our findings are included in our PA comments, as well as in the Botany Specialist Report. We requested that the locations of these species will placed in skips during sale layout, as the PA suggests, however have not received confirmation that this will be the case.

**Table 4: Objectors' botany findings in the North Clack project area**

| Unit | Species | Species Code | Taxa Group | Status | Lat, Long |
|---|---|---|---|---|---|
| 70 | Usnea longissima | USLO53 | Lichen | S&M | 45°11'44.11"N, 122° 5'16.35"W |
| 76 | Allotropa virgata | ALVI23 | Plant | former S&M; Table C-3 species (1994) | 45°12'15.31"N, 122° 5'36.41"W |
| 79 | Allotropa virgata | ALVI15 | Plant | former S&M; Table C-3 species (1994) | 45°12'12.61"N, 122° 5'30.83"W |
| 79 | Allotropa virgata | ALVI16 | Plant | former S&M; Table C-3 species (1994) | 45°12'13.01"N, 122° 5'30.32"W |

| | | | | | |
|---|---|---|---|---|---|
| 92 | Usnea longissima | USLO54 | Lichen | S&M | 45°12'9.66"N, 122° 7'59.13"W |
| 92 | Usnea longissima | USLO55 | Lichen | S&M | 45°12'8.75"N, 122° 7'59.11"W |
| 94 | Usnea longissima | USLO50 | Lichen | S&M | 45°12'6.67"N, 122° 7'40.49"W |
| 96 | Usnea longissima | USLO51 | Lichen | S&M | 45°12'13.68"N, 122° 7'32.99"W |
| 112 | Allotropa virgata | ALVI17 | Plant | former S&M; Table C-3 species (1994) | 45°12'24.65"N, 122° 6'11.29"W |
| 112 | Allotropa virgata | ALVI18 | Plant | former S&M; Table C-3 species (1994) | 45°12'27.01"N, 122° 6'7.90"W |
| 114 | Allotropa virgata | ALVI2 | Plant | former S&M; Table C-3 species (1994) | 45°12'31.49"N, 122° 6'13.54"W |
| 114 | Allotropa virgata | ALVI3 | Plant | former S&M; Table C-3 species (1994) | 45°12'30.35"N, 122° 6'8.78"W |
| 118 | Allotropa virgata | ALVI19 | Plant | former S&M; Table C-3 species (1994) | 45°12'30.65"N, 122° 6'8.61"W |
| 140 | Usnea longissima | USLO50 | Lichen | S&M | 45°12'29.70"N, 122° 9'6.33"W |
| 178 | Allotropa virgata | ALVI14 | Plant | former S&M; Table C-3 species (1994) | 45°12'49.33"N, 122° 8'36.52"W |
| 179 | Allotropa virgata | ALVI4 | Plant | former S&M; Table C-3 species (1994) | 45°12'50.28"N, 122° 8'43.82"W |
| 184 | Allotropa virgata | ALVI3 | Plant | former S&M; Table C-3 species (1994) | 45°13'24.11"N, 122° 8'11.14"W |
| 191 | Usnea longissima | USLO52 | Lichen | S&M | 45°13'4.27"N, 122° 7'50.10"W |
| 191 | Usnea longissima | USLO53 | Lichen | S&M | 45°13'4.31"N, 122° 7'50.13"W |
| 191 | Allotropa virgata | ALVI19 | Plant | former S&M; Table C-3 species (1994) | 45°13'8.42"N, 122° 7'43.57"W |
| 191 | Allotropa virgata | ALVI20 | Plant | former S&M; Table C-3 species (1994) | 45°13'9.23"N, 122° 7'43.25"W |
| 192 | Allotropa virgata | ALVI5 | Plant | former S&M; Table C-3 species (1994) | 45°12'48.60"N, 122° 7'37.66"W |
| 192 | Allotropa virgata | ALVI6 | Plant | former S&M; Table C-3 species (1994) | 45°12'49.87"N, 122° 7'37.37"W |
| 192 | Allotropa virgata | ALVI7 | Plant | former S&M; Table C-3 species (1994) | 45°12'47.47"N, 122° 7'36.91"W |
| 192 | Allotropa virgata | ALVI8 | Plant | former S&M; Table C-3 species (1994) | 45°12'48.46"N, 122° 7'47.77"W |
| 192 | Allotropa virgata | ALVI9 | Plant | former S&M; Table C-3 species (1994) | 45°12'50.36"N, 122° 7'45.72"W |
| 192 | Allotropa virgata | ALVI10 | Plant | former S&M; Table C-3 species (1994) | 45°12'49.10"N, 122° 7'44.37"W |
| 192 | Allotropa virgata | ALVI11 | Plant | former S&M; Table C-3 species (1994) | 45°12'50.32"N, 122° 7'43.12"W |
| 192 | Allotropa virgata | ALVI12 | Plant | former S&M; Table C-3 species (1994) | 45°12'50.40"N, 122° 7'42.39"W |
| 192 | Allotropa virgata | ALVI13 | Plant | former S&M; Table C-3 species (1994) | 45°12'51.55"N, 122° 7'41.44"W |
| 194 | Allotropa virgata | ALVI5 | Plant | former S&M; Table C-3 species (1994) | 45°13'5.75"N, 122° 7'10.99"W |

| | | | | | |
|---|---|---|---|---|---|
| 198 | Allotropa virgata | ALVI2 | Plant | former S&M; Table C-3 species (1994) | 45°13'34.28"N, 122° 7'1.32"W |
| 202 | Allotropa virgata | ALVI21 | Plant | former S&M; Table C-3 species (1994) | 45°13'39.93"N, 122° 7'30.28"W |
| 202 | Allotropa virgata | ALVI22 | Plant | former S&M; Table C-3 species (1994) | 45°13'32.38"N, 122° 7'32.60"W |
| 202 | Usnea longissima | USLO56 | Lichen | S&M | 45°13'39.98"N, 122° 7'39.10"W |
| 204 | Allotropa virgata | ALVI4 | Plant | former S&M; Table C-3 species (1994) | 45°13'44.22"N, 122° 7'4.85"W |

*Allotropa virgata*

*A. virgata* was formally designated a "C-3 species" under the Northwest Forest Plan. *See Table C-3*. It is currently a Forest Service Sensitive species in the Intermountain Region.

*A. virgata*'s habitat is a function of the requirements of the fungus with which it associates, with important factors being those of the soil environment and the availability of host trees. Buried, rotten wood is one important aspect of *A. virgata* habitat because it retains moisture and provides organic substances essential to the associated fungus.

Dependence of *A. virgata* on its conifer host suggests that anything that destroys the tree component or severs the mycorrhizal relationship will result in death of the plant. Plants on the margins of canopy openings produced by logging may also be adversely affected by the increased insolation.

Although *A. virgata* no longer has any official conservation status as a Region 6 sensitive or strategic species or a Survey and Manage species, Bark recommended in PA comments and requests now that sites be protected from logging disturbance due to the species' obvious affinity to intact, healthy soils in mature forest as well as its overall rarity on the CRRD and the Mt. Hood National Forest.

*Usnea longissima*

*U. longissima* is currently a Survey and Manage Category F species under the Northwest Forest Plan. It is a declining species with sporadic distribution on the Clackamas River Ranger District and throughout the Northwest Forest Plan area. It has been extirpated from all of its range in Europe and Scandinavia due to habitat loss and air pollution, except for parts of Norway and Italy where it is "red-listed" as an endangered species. It is also listed on the "Red List of California Lichens".

Populations of *U. longissima* occur predominantly in riparian areas, hanging from trees growing along or nearby rivers and tributaries, but populations can also occur in upland forest. Falling or limbing of trees on which *U. longissima* is growing would destroy populations of the lichen. It cannot survive on fallen trees, branches, or the forest floor. *U. longissima* is vulnerable to changes in tree density and canopy closure.

In the North Clack project area specifically, past project planning documents have stated that "trees with these lichens would be marked as leave trees." *No Whisky EA at 76.* Bark recommended in PA comments that and requests now that this action be taken in the case of North Clack, with the option of expanding this provision to retaining trees with canopies that touch trees containing *U. longissima.*

REQUESTED REMEDY

Since the EA/Draft Decision makes no mention of the occurrence of these species and any related mitigation measures, Bark requests that a PDC added which directs skips to be placed in areas of *A. virgata,* as well as the recommendation from the No Whisky EA which required trees containing *U. longissima* to be marked for retention.

***"Regeneration harvest"***

Since pre-Scoping, Bark has raised concern about the amount of "regeneration harvest included in the North Clack proposal. Our concern around this logging technique have centered around loss of mature forest structure including dead wood, current research relating to PNW early-seral habitat, hydrological impacts, proposed units' relationships to existing nearby early-seral, exceptions to LRMP Standards, and carbon emissions.

In Scoping comments, Bark noted that some "regeneration harvest" units are mixed-age stands containing mature and legacy trees, as well as other healthy stand conditions. This runs contrary to the FS's statements in the Draft Decision notice that "regeneration harvest in older stands is not proposed in this area at this time" and that "I have directed my staff to pursue a vegetation management path that focusses on younger stands for forage creation". If "younger stands" could be defined as stands under 80 years old, the following proposed regeneration harvest units should not be included in this category: Unit 76 (104

yrs), Unit 96 (84 yrs), Unit 116 (105 yrs), Unit 132 (102 yrs), Unit 133 (90 yrs), Unit 184 (104 yrs), Unit 191 (115 yrs), Unit 204 (113 yrs).[15]

The FS in the past stated that forage has declined in large part due to the continued policy of full fire suppression on the District, as fire is the historic source of forage openings. There has not been an effort by the FS to provide evidence that increased acres of regeneration logging will result in increased forage across the landscape in North Clack compared to that which was created by the 36 Pit Fire.

In the Draft Decision notice, the FS makes the statement that "(s)ome of the regeneration harvest is proposed in areas that contain palatable brush species that are being shaded out by conifers." Bark has noted since scoping that in several stands, such as Unit 96, numerous gaps in the canopy already exist, and there is no lack of understory vegetation across the entire unit. However, this existing vegetation might not be what the FS is hoping is there. Currently dense sword fern, Oregon grape, and Western hemlock dominate the understory of these stands.

Without any "regeneration harvest" North Clack will still include hundreds if not thousands of acres of openings in the form of gaps, heavy thins, landings, road building, and fuel breaks. Along with these openings, clearcuts continue to dominate the broader landscape that North Clack occupies, as the project area is surrounded by private land on two sides. This is why we encouraged the agency to look to existing openings, or those created in thinning units as landings or "gaps" to take advantage of what forage opportunities these conditions provide, including identifying additional locations for prescribed burning as recommended in the WA.

The FS has responded that "(w)hile other projects such as thinning, that includes gaps and heavy thins, a two-acre meadow burning and underburning of some thinned stands will also provide some incidental forage as a temporary byproduct, the regeneration harvest will provide quality forage for deer and elk. So far, there has been no evidence to support the claim that just because an opening is bigger than would likely naturally occur at a particular site, the forage will be of higher quality.

Recently, Bark was able to visit 1-5 acre gaps created as part of the Grove EA, and obtain imagery of the openings. The majority of the units in this ~1500 acre timber sale included a prescription similar to this. We encourage the Deciding

[15] The North Clack Silviculture Report does not give stand ages for regen units 17, 195, and 201

Officer to view these photos and ask the planners of the North Clack project what “high quality” forage would grow in a 30 acre clearcut that would not grow in the gaps shown below.

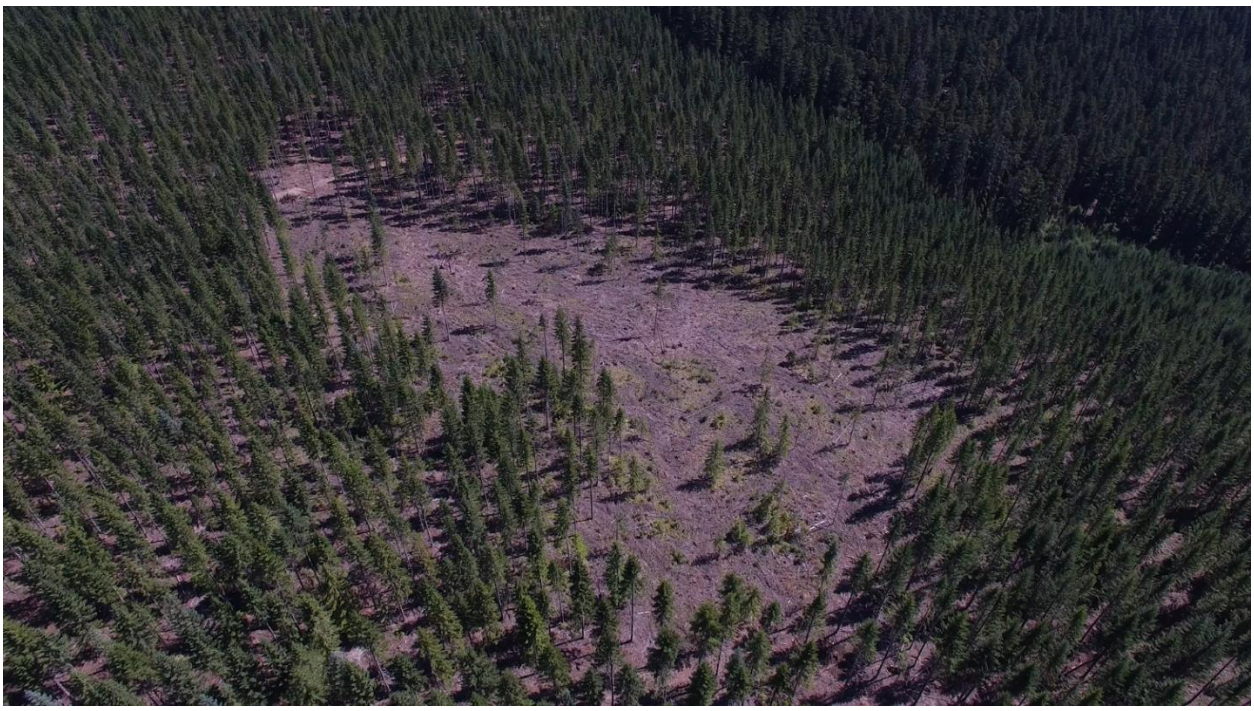


*Fig. 6: “Gap” in Shell unit 60*

*Fig. 7: "Gap" in Shell unit 58*

In the Draft Decision notice, the FS asserts that "(o)nce tree canopy closes in young stands, forage and other early-seral attributes are lost". This prediction assumes that these stands are frozen in time immediately after becoming closed canopy. In reality, tree competition induces natural gaps and an influx of dead wood and multi-aged stand structure. Unfortunately, the gaps created in the photos above will likely eventually grow in with small, mostly single-aged trees, since they are not exempt from time's effects either.

According to the FS the units proposed for regeneration harvest in North Clack would provide what they call "early-seral habitat" for approximately 20 years. And according to the silviculture report would be replanted at a density *higher* than existing plantations. Replanting at this density would seem to run counter to the stated purpose of creating high quality "early-seral".

The agency has stated in the North Clack Draft Decision that "(c)hanges in forest management direction and practices over time have resulted in practices that favor the development of late-successional features over large areas of the forest."

However, recent OSU research[16] has found that in the Pacific Northwest overall, species dependent on late-seral habitat continue to suffer greater population declines compared to early-seral species.

In contrast to generalization that the reduction of clearcutting on federal lands has negatively affected the creation of early-seral ecosystems, the area of diverse early-seral ecosystems on federal land has remained more or less constant. Increases in areas of large, high-severity wildfires (like the 36 Pit Fire) appear to have compensated for any decline in early-seral ecosystems created through harvest.

Projections of vegetation change and fire in the Pacific Northwest point to increased prevalence of wildfire and expansion of conditions suitable for hardwoods. These changes could create more habitat for species associated with early-seral ecosystems and suggest that active management (including "ecological forestry") may be less needed where these processes occur. In the EA, the FS did address this reality, nor did they disclose the numbers of early seral vs. late seral species in the project area.

Aggressive logging prescriptions usually lead to greater cumulative impacts. Results of current research on streamflow deficits[17] suggests that reported trends of streamflow reduction in recent decades could be caused as much or more by cumulative effects of clearcut logging than by climate change.[18] This is especially troubling since over 50% of the North Fork is within transient snow zone, resulting in increased risk of landslides because of canopy removal on steep slopes. In terms of hydrologic recovery, the FS asserts that regeneration harvests would set the stand back to zero. Afterward, hydrologic recovery would take approximately 35 years. This significant impact to hydrology did not hold significant weight when the agency selected these acres for "regeneration harvest", but is a factor in Bark's decision to object to this action.

This logging prescription as proposed would require an exception for FW-306 because four "regeneration harvest" units have not culminated. FW-307 explains that exceptions to this may be made where resource management objectives or special resource conditions require earlier harvest. The FS goes on to state that "regeneration harvest" is needed to enhance forage where palatable browse plants are present, and to reduce the spread of western hemlock dwarf mistletoe (habitat structure for several species of songbirds) and "reduce the stand's western hemlock component." The FS did not demonstrate how mistletoe and

[16] https://today.oregonstate.edu/news/nw-forest-plan-25-years-later-wildfire-losses-bird-populations-down
[17] https://pdfs.semanticscholar.org/7ede/1f5f1d35997e5f8d39a2d2fb5809136016ac.pdf
[18] Perry, T.D && Jones, J.A. (2016) Summer streamflow deficits from Regenerating Douglas Fir forests in the Pacific Northwest, USA. Ecohydrology, doi:10.1002/eco.1790.

the presence of western hemlock are such dire issues within the watershed that they require aggressive logging prohibited by the LRMP.

REQUESTED REMEDY:

To protect existing mixed-aged forest structure, and to allow natural processes to bring high quality forage into these stands, Bark requests that the agency prioritize "young stands" for "regeneration harvest" by removing all stands over 80 years old from this prescription.

***Impacts to soils***

In PA comments, Bark raised concern about proposed exceptions to Forest Plan standards and guidelines FW-022 and FW-028. These standards and guidelines direct the FS to not bring detrimental impacts to soil above 15% of the activity area (FW-022), and have these impacts remaining post-logging (FW-028). If these conditions exist, they should be rehabilitated to a level of less than 15% impaired.

The FS states that many units already exceed 15%, and that the project would increase it in some areas. The cumulative effects of the action alternatives when added to existing conditions would result in detrimental soil conditions that would range from 8% in stands that have not been logged before to 28% where ground-based logging has occurred before and is proposed again. In regeneration harvest units, the impact would range from 10 to 27% even after the proposed decompaction of primary skid trails.

Deep soil tillage is being proposed for some of the primary skid trails (and existing road alignments and landings) on several units to bring the project area closer to meeting FW-028. Bark requested an estimate on how many acres activity would occur on, and how this would factor into the estimated total acres as it relates to the above estimated detrimental soil conditions. Unfortunately, we received no response.

We observed that the Proposed Action has been "designed to minimize additional detrimental soil impacts. The project design criteria and contractual specifications would be employed that aim to contain the extent of detrimental soil conditions." The "Clackamas River Ranger District Standard Project Design Criteria (PDC) 3/2019" document provided with the PA addresses soil impacts in a way that appears to be more conditions-based than previous PDC documents Bark has seen which exist more within specific work windows and measurable limits to operations outside these work windows.

Operating requirements are usually based on calendar dates (June 1 – October 31). However, the actual conditions on the ground may or may not be consistent with desired conditions within and outside of the calendar operating dates as a result of changing weather patterns and climate change. Any conditions-based approach which streamlines the current system of winter waivers (as is being tested on the HRRD) must create clear expectations of communication between the specialists, sale administrator and contractor.

In PA comments we included the following project design criteria and mitigation measures. This prompted no response.

- During conditions normally requiring a wet-weather waiver, contractors must receive approval from Forest Service staff before operations begin. In general, the sale administrator should 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.
- Forest Service Sale Administrator should require a site inspection before contractor's equipment is moved offsite.
- Reduce potential for soil compaction. If winter operations are considered, frozen ground may be appropriate. Soil temperature should ensure soil is frozen to a substantial enough depth.
- In the final Proposed Action as well as in contract language, please specify how the maximum soil saturation for winter operations to continue will be determined under different soil types.
- In the Proposed Action, please specify how soil moisture be measured in the field, who will measure it and when, and how will this be shared with the Forest Service if staff are not on-site.
- Reduce risk of sedimentation and ensure placement of erosion control devices. Place sediment traps and relief culverts along haul route as needed. If there are any visual signs of sedimentation do not haul or conduct operations.
- Develop a set of "trigger points" where winter operations shall cease, which should include both daily precipitation limits and antecedent precipitation limits over multiple days. These limits should reflect local soil types and their responses to precipitation intensity.
- If cumulative rainfall exceeds these trigger points according to RAWS data or rain gauges installed in close proximity, then do not haul or conduct operations.
- Leave roads in the same condition or improved hydrological condition post-treatment. Add aggregate base to roads as needed to support hauling. Conduct ditch cleaning as needed.

- Monitor the condition of roads. If roads appear to be distressed or damaged as a result of activity, then do not haul or conduct operations.

REQUESTED REMEDY:

In the Final Decision, provide information requested above regarding soil impacts. Furthermore, include a consideration of the project design criteria and mitigation measures regarding soil impacts outlined above.

**3) North Clack Climate Change Analysis fails to take a hard look at impacts resulting from Decision**

In the North Clack EA, the FS states that "Public comments received suggested a project-specific quantitative carbon analysis. A quantitative carbon analysis was not conducted for this project because it would not likely lead to changes to the proposed actions or to the creation of other alternatives that achieve the purpose and need."

In North Clack, FS has made a choice not to pursue a quantitative carbon analysis, or address current forest carbon research and its recommendations which were provided to them during Scoping, and since that time have been supported by the Oregon Global Warming Commission's Forest Carbon Accounting Project Report.[19] These findings highlight the importance of project-level tracking of carbon emissions, and question whether converting standing timber into wood products can be an effective strategy for maintaining or increasing overall forest carbon storage.[20]

The agency claims that the "Forest Plan, as amended, does not contain direction related to climate change." While this may be true, Bark has demonstrated that environmental law arguably does.

In responding to comments, the Forest Service claimed that "climate change is a global phenomenon" with the implication that it is impossible to assess the impact of any given project. This claim was thoroughly rejected by the Ninth Circuit, which found the fact that **"climate change is largely a global phenomenon that includes actions that are outside of [the agency's] control . . . does not release the agency from the duty of assessing the effects of its**

[19]https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/5c094beaaa4a99fa6ad4dcde/1544113138067/2018-OGWC-Forest-Carbon-Accounting-Report.pdf

[20] Land use strategies to mitigate climate change in carbon dense temperate forests. Beverly E. Law, Tara W. Hudiburg, Logan T. Berner, Jeffrey J. Kent, Polly C. Buotte and Mark E. Harmon PNAS March 19, 2018. 201720064; published ahead of print March 19, 2018. https://doi.org/10.1073/pnas.1720064115

**actions on global warming within the context of other actions that also affect global warming."** The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct. *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008).

The Ninth Circuit established a rule in *Hapner v. Tidwell* that NEPA analyses must consider a project's "impact on global warming in proportion to its significance," 621 F.3d 1239, 1245 (9th Cir. 2010). Because of the importance of mature westside forests to the carbon cycle, local forest management decisions on MHNF have a disproportionately high impact on climate change. Indeed, studies have found that decreasing logging on National Forests in the Pacific Northwest is one of the top land use strategies to mitigate climate change.

Unfortunately, the CRRD has "decided that a quantitative carbon analysis is not appropriate at the project scale. Carbon sequestration is only one of the many important values and uses of the Forest. Increasing or maximizing on-site carbon sequestration is likely very compatible with many Forest land allocations such as wilderness, but I do not find it to be a key objective for the treatment areas proposed in this project." *Draft DN at p. 9*.

In 2016, the Council on Environmental Quality (CEQ) released final guidance for federal agencies on how to consider the impacts of their actions on global climate change in their NEPA analysis.[21] This final guidance provided a framework for agencies to consider both the effects of a proposed action on climate change, as indicated by its estimated greenhouse gas emissions, and the effects of climate change on a proposed action.

To take a hard look at climate change, the questions that the FS should be answering are: How many tons of carbon will the North Clack Timber Sale emit into the atmosphere during and after project implementation from logging operations and decay? How much carbon sequestration does the project area currently sequester? How much sequestration capacity will be lost, and for how

[21] On March 28, 2017 the Trump Administration issued an executive order titled "Presidential Executive Order on Promoting Energy Independence and Economic Growth" which attempted to relieve agencies from the requirement to consider the effects of GHG emissions and climate change. Among other things, this executive order rescinded the CEQ guidance regarding consideration of climate change in federal decision-making, but the E.O. also recognizes that "[t]his order shall be implemented consistent with applicable law" and "all agencies should take appropriate actions to promote clean air and clean water for the American people, while also respecting the proper roles of the Congress and the States concerning these matters in our constitutional republic." While the guidance was finalized in August 2016, it followed a series of court rulings addressing the issue of greenhouse gases and NEPA, which found that whenever greenhouse gases are significant or rise from the project, either directly or indirectly, they much be analyzed in a NEPA document. Thus, despite the E.O., the FS must continue to carefully consider the effects of GHG emissions and climate change in all its decisions.

long? How will the forests' resiliency to a changing climate be affected by the logging and road building? It is absolutely possible to quantify the amount of carbon sequestered in the North Clack project area (see, for example, the BLM's Hole in the Road EA in which did just that).

The FS states in the Draft Decision: "I have reviewed the science and I believe there are far too many disagreements regarding the assumptions and unknowns about the factors that would go into a quantitative analysis that would render the results speculative."

**We believe that the FS should have quantified emissions from this project and take the analysis a step further to examine the carbon tradeoffs, including carbon emitted from the project and the loss of future carbon sequestration because of the project.**

The aforementioned CEQ guidance also requires the FS to **consider alternatives that would make the action area and affected communities more resilient to the effects of a changing climate.** The FS should also choose mitigation measures to reduce action-related GHG emissions or increase carbon sequestration in the same fashion as they consider alternatives and mitigation measures for any other environmental effects.

A very recent California case discussed the government's failure to take a hard look at how a changing climate exacerbates the adverse impacts of the proposed project, finding that to meet the hard look requirement, "NEPA requires an evaluation of the impact of climate change." AquAlliance v. U.S. Bureau of Reclamation, 287 F.Supp.3d 969, 1028 (E.D. Cal. 2018). The court in AquAlliance found that failure to consider climate change is a "failure to consider an important aspect of the problem" facing the proposed action. Id. at 1032, citing Wild Fish Conservancy v. Irving, 221 F.Supp.3d 1224, 1233 (E.D. Wa. 2016) (Biological Opinion was arbitrary and capricious for failing to adequately consider impacts of climate change). In the current case, the Forest Service similarly failed to recognize that mature forests are the most climate-resilient ecosystems and provide important habitat refugia for organisms stressed by a changing climate.

REQUESTED REMEDY:

To take a hard look at the impacts on the climate resulting from this project, the FS should:

- Complete a quantitative carbon analysis based on existing stand exam data
- Analyze and disclose how a changing climate exacerbates the adverse impacts of the proposed project

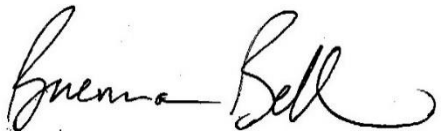
**OBJECTION RESOLUTION**

Many of the above suggestions for resolution are carryovers from Bark & NEST's comments and represent issues that the FS declined to address in its EA. We hope that these suggestions find more fertile ground during the objection process and that this project can become one that restores the forest and makes communities more resilient to climate change.

We would welcome a productive pre-decisional objection resolution meeting with MHNF staff. If you have any clarifying questions about this objection, please don't hesitate to contact us.

Thank you,

Michael Krochta
Forest Watch Coordinator, Bark



Brenna Bell
Staff Attorney, Bark

*/s/Nicholas Sobb*
NEST

*/s/Edward Curran*
NEST