Conservation Northwest
Keeping the Northwest Wild

March 15, 2023

Greta Smith, District Ranger
Darrington Ranger District, Mt. Baker-Snoqualmie National Forest
1405 Emens Ave N, Darrington, WA 98241

Re.: North Fork Stillaguamish Landscape Analysis Draft Environmental Assessment

Dear Ranger Smith,

On behalf of Conservation Northwest (CNW), please accept these comments on the North Fork Stillaguamish Landscape Analysis Draft Environmental Assessment. We write in support of proposed Alternative 2 for silvicultural treatments, and Alternative 3 for road system changes. We also have several clarifying questions related to silvicultural prescriptions as they relate to focal species needs and the landscape's future range of variability.

Conservation Northwest has a 30-year history of successfully leveraging funding and public support to protect, connect, and restore habitat and wildlife in the Pacific Northwest. We represent over 17,000 members and supporters dedicated to conservation and recovery action in our state. Our success is owed in large part to our practical allegiance to science and policy, and commitment to collaboratively work with managers, scientists, user groups, industry and other stakeholders to develop and implement durable restoration plans and projects.

We support efforts on the Mt. Baker-Snoqualmie National Forest (MBSNF) to restore ecological resiliency, watershed function, and habitat conditions for wildlife populations at landscape scales. We also recognize the value of tribal and public access for cultural and recreational opportunities, and the importance of providing jobs and associated economic benefits to communities. We care deeply about this landscape, its vast wild places, connected habitat, and wildlife and human populations that it sustains.

SILVICULTURE

Variable Density Thinning (Commercial Harvest)

We understand there are up to 10,572 acres of variable density thinning (VDT) in Alt 2, with an additional 1,936 – 3,005 acres of VDT within Riparian Reserves along 152 stream miles (see VDT Riparian Reserves section). The VDT prescription would benefit from describing how it will create species, spatial, and temporal heterogeneity. In other words, describe what the stand and project area will look like post-treatment. The Variable Retention Harvest definition in the Silviculture Report describes aggregate retention and dispersed retention (p. 34), but neither the report nor the draft EA explicitly discuss the VDT patterning planned for this project. (The Wildlife Report (p. 105)

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mentions that "Reserve tree retention would be accomplished with both dispersed and aggregate tree retention"). Specific clarifications that could help describe spatial pattern objectives include 1) the range of patch sizes for heavy thin patches and 2) the range of patch sizes for skips. Please also provide more information about the species of trees to be retained. In addition to leaving large Douglas-fir for epicormic branch development, will the operators be asked to leave western red cedar, Pacific yew, Pacific madrone, bigleaf maple? Other species? We feel strongly that species and spatial heterogeneity need to be explicit in the commercial prescriptions so that timber sale administrators and operators have clear guidance on sale layout and harvest operations, post-harvest expectations are made clear, and ecological outcomes are achieved. For example, what will be the outcome if there are two 24" dbh trees close together? The results will depend on how the prescription is written and the intentions of the operator.

The VDT prescription in the draft EA states that heavy thins would consist of 20-50 residual trees per acre (p. 11) and the Silviculture Report states 50 tpa (p. 22); please clarify the residual number of trees per acre post-treatment.

The draft EA notes that stands identified for VDT are "those that are currently or likely to meet the conditions necessary for commercial thinning in the next 15-20 years" but does not explain what those conditions are (p. 11). The EA would benefit from the inclusion of the Silviculture Report condition description which states:

> Stands identified for VDT are forested stands are currently less than 80 years of age and not within nesting, roosting, or foraging habitat for northern spotted owl or marbled murrelet. Additionally, stands identified for VDT have approximately 75% of the trees in the stand are in diameter classes over 8" to make a commercially viable timber sale and have an even aged structure regenerated following a harvest or other disturbance then developed as an even-aged single layered stand (p. 21-22).

We are curious about the potential need for reforestation which appears to be for future commercial purposes (Silviculture Report p. 29). Even though there is a lack of complex early seral habitat (CES) on the MBSNF, the draft EA removed the creation of large blocks of complex early seral habitat (Wildlife Report p. 107) – why? We query that it was because it would require a modification to the Finney AMA (and possibly updated LSR assessment) which was deemed infeasible at this time. Without large blocks of CES, VDT gaps (.25 – 2 acres) should be left to naturally regenerate such that they can help serve as temporary forage units for numerous species such as ungulates and pollinators.

We appreciate the avoidance of abrupt edges and inclusion of strong scatter leave trees in road belts to prevent excess windthrow.

We note that tethered logging may take place on slopes up to 80% (Appendix B SWF6 and SWF13) and appreciate the Project Design Criteria (PDC) to minimize soil degradation and "Compare soil disturbance and impacts to aquatic resources from tethered based operations to standard harvest and yarding methods" (Appendix B p. 12). More research on the ecological pros and cons of tethered logging is needed[1] and we advise using the tool cautiously while monitoring for adaptive management.

Generally, we like the VDT prescription (thin from below, skips and gaps with a 35% SDI), but would like more information regarding species, spatial, and temporal heterogeneity, and the ecological need for reforestation on a landscape lacking CES.

Variable Density Thinning (Commercial Harvest) in Riparian Reserves

The draft EA notes the "riparian reserves within proposed stands are in the same dense, structurally simple conditions as the stands they run through" (p. 17) and goes on to prescribe the same VDT treatment as is prescribed for upland stands (skips, gaps up to .25 acres, heavy thinning down to 50 tpa, and 35% SDI). The only difference is the size of the gaps which may be as large as 2 acres in upland sites and, of course, stream buffers.

The Silviculture Report notes that, under Alt 3, if riparian reserve treatment areas are not adjacent to commercial upland stands, they would not be cost efficient and would be dropped from the project (p. 26). Could these riparian reserve treatment areas be treated with non-commercial thinning, instead of being dropped from the project?

Stand Improvement (Non-Commercial Thinning)

The draft EA notes that no data was collected for non-commercial stands, but that they "exhibit similar conditions as the other PVTs…" (p. 64). As with VDT, the EA would benefit from the inclusion of the Silviculture Report's non-commercial condition description which states:

> Stands identified for non-commercial thinning would be dense overstocked young stands with an average tree size below merchantability (7-8 inches in DBH) and regenerated either by planting or natural regeneration following past timber harvest (p. 22).

Also similar to the VDT prescription, the huckleberry habitat enhancement non-commercial prescription (draft EA p. 11), and the stand improvement non-commercial prescription (draft EA p. 64) lack information regarding species and spatial heterogeneity. We also wonder if there are any differences between stand improvement non-commercial thinning (Alt 2 up to 6,492 acres) and riparian reserve stand improvement non-commercial thinning (Alt 2 up to 1,536 acres)?

[1] Visser, R. and Stampfer, K. 2015. Expanding Ground-based Harvesting onto Steep Terrain: A Review. Croat. j. for. eng. 36(2015)2.

We'd like to know if more stand improvement acres could be added to the project to benefit wildlife and move more of the area toward late successional habitat sooner. It may be that a modification to the Finney AMA would be required which could enable land allocation swaps to protect more land with old growth characteristics and thin overabundant dense plantations.

Connecting Prescriptions to Ecological Outcomes

The EA would benefit from linking its commercial and non-commercial prescriptions to specific focal species and to findings from terrestrial and aquatic landscape evaluations and/or surveys. Why are certain treatments being targeted in specific areas? How do the treatment prescriptions (patch size and spatial patterning) better connect NSO NRF habitat? What is the plan for treatment prioritization in the project area, and how will the temporal range of treatments help realize species benefits on the ground? It is difficult to determine effects on terrestrial and aquatic species without more detailed prescriptions, especially regarding patch size and spatial patterning.

ROADS/HYDROLOGY/AQUATICS/RECREATION

We greatly appreciate the detailed roads tables provided in the draft EA and Transportation Report that include SRS Aquatic Risk and rational for proposed changes. There appears to be a discrepancy between Table 13 and Table 14 regarding the number of ML1 miles proposed in each Alternative (draft EA p. 18-19). Table 13 proposes 90.3 ML1 miles in Alt 2, while Table 14 proposes 112.62. Table 13 proposes 43.5 ML1 miles in Alt 3, while Table 14 proposes 57.80. Please clarify the ML1 mileage or direct us to a narrative that explains the difference.

We are happy to see that up to 90% of the project's road prism could receive maintenance or reconstruction (draft EA p. 40) including prioritized stormproofing on ML2 – 5 roads (draft EA p. 13). The draft EA recognizes that the legacy road network and associated infrastructure is the primary source of altered hydrologic regimes, accelerated sedimentation, disconnected floodplains, and impaired water quality and fish habitat function (p. 13). Roads (and trails) are also a major contributor to habitat fragmentation. To realize the full aquatic and connectivity benefits of treatment, we prefer Alternative 3 which decommissions substantially more miles of road, particularly in the headwaters of the North Fork Stillaguamish which is critical listed fish habitat (draft EA p. 43-45). However, for three specific road segments totaling 14 miles, we prefer Alternative 2 which closes three ridge roads after Chute Creek (1730000 BMP 0.7 – EMP 3.0 high aquatic risk; 1731000 BMP 0 – EMP 6.651 low aquatic risk; 1732000 BMP 0 – EMP 4.1841 high aquatic risk). In Alternative 3, these roads are either maintained at or increased to ML 2 (open for high clearance vehicles) which simply increases the risk of stream degradation in Alder Creek, North Fork Stillaguamish, and other tributaries.

We caveat our road preferences by noting that road decommissioning has the potential to remove access to cultural resources which may be good (prevent vandalism) or bad (block access for tribal members or the public). Tribal access is not only guaranteed by law, but also essential to Tribal well-

being and must be a central consideration when prioritizing recommended changes. The EA should note that all roads designated for decommissioning or ML1 have been approved by Tribes.

We are very happy to see this project integrate aquatic organism passage upgrades, improve aquatic habitat with instream large woody debris, and, in co-management with Tribes, enhance beaver habitat using beaver dam analog systems and/or beaver transplants, as well as riparian treatments that cultivate shrubs and hardwood components needed as forage.

Based on our experience rehabilitating dispersed recreation areas in the Greenwater River corridor, we agree that the proposed condition-based management actions for dispersed camping sites in riparian reserves will achieve the objective to restore riparian areas degraded by dispersed use (draft EA Table 11 p. 15-16). Signage will also be key to explaining restoration processes and encouraging behavior change. It would be helpful to know what the boundaries are of "in the area" ("…potential alternative dispersed sites exist in the area" draft EA Table 11 p. 15). In other words, where will dispersed use be funneled such that if/when options are reduced, human use and behavior doesn't create new degradation issues elsewhere.

FIRE/FUELS

We are excited to see that "Following all thinning activities, a variety of fuels treatments would be applied to reduce ground fuels, lower the risk of high severity wildfires, and to provide a defensible area along roads for potential future wildfire management" (draft EA p. 12) and advocate strongly for the use of prescribed and cultural burning to achieve the full ecological benefits of treatment. Specifically, we would like to see much more broadcast burning completed across the MBSNF which we believe best benefits all aspects of forest health including improved tree growth rates, enhanced resistance to disturbances such as drought, insects, and diseases, and augmented long-term heterogeneity and overall ecosystem resilience.[2,3] If done at the scale needed, the beneficial effects of prescribed fire would be improved. In Region 6, mechanical thinning continues to be "the tool" used to "fix" our forests, while other Regions around the country (e.g. Region 8) have excelled in the application of beneficial fire. We (CNW) are working with others in the western states to lower barriers to prescribed and cultural burning and hope to see the full benefits of their use realized on both dry and mesic forest types as soon as possible. We would value the opportunity to help create a pilot project on the MBSNF where the application of fire is co-managed by Tribes and the USFS.

[2] USDA. 2022. Treating Hazardous Fuels at a Scale That Makes a Difference. https://www.fs.usda.gov/sites/default/files/fs_media/fs_document/Treating-Hazerdous-Fuels.pdf

[3] Zald, H., Callahan, C., Durteau, M., Goodwin, M., and North, M. 2022. Tree growth responses to extreme drought after mechanical thinning and prescribed fire in a Sierra Nevada mixed-conifer forest, USA. Forest Ecology and Management, Vol 510. https://doi.org/10.1016/j.foreco.2022.120107

WILDLIFE

Terrestrial

NORTHERN SPOTTED OWL

We recognize that the MBSNF has an overabundance of legacy plantations that are densely stocked with trees <80 years old and in need of treatment to improve both late seral and complex early seral conditions on the landscape. We appreciate that disturbance-based principles are guiding Northern Spotted Owl (NSO) management decisions.[4] NSO data provided in the Appendix of Wildlife Figures seems to show that treatments will take place in unsuitable or marginal NSO habitat adjacent to suitable habitat (see Figure 1 of these comments). We hope that by better explaining the temporal and spatial heterogeneity of the silvicultural prescriptions (as requested above), this will illustrate how plantation treatments will create large, continuous blocks of late-successional habitat for NSO, Marbled Murrelet, American Marten, and other late seral associated species.

We note that it is common for once-occupied NSO sites to become occupied again and ask that short-term negative impacts to current, assumed, and potential NSO sites are minimized using Limiting Operating Periods and avoidance where necessary. Treatments must be performed such that NSO can persist on existing territories.[4] We look forward to seeing the USFWS Biological Opinion regarding NSO protections and treatment tradeoffs.

With this in mind, we have some concerns about the potential loss of primary constituent elements in critical habitat, and edge effects to suitable nesting habitat in adjacent critical habitat forest stands (draft EA p. 74-75). We call out in a few specific commercial harvest units within .7 miles of assumed owl presence that will need careful attention - detailed below and in Figure 1 of these comments.

- "NF Stilly" Reproductive (red circle): h16 (33 acres)
- "Round" Single (yellow circle): south half of s12b (83 acres); s13 (9 acres); s14 (67 acres); s38b (11 acres); s15 (31 acres); s37 (20 acres); s36 (16 acres); s20 (17 acres); s21 (20 acres); s19 (26 acres)
- "Deer" Reproductive (green circle): d91 (46 acres); d93 (17 acres); portion of d67 within .7 miles of owl; d68 (5 acres); d70 (3 acres)
- "Higgins Mt" Pair and/or Single (dark blue circle): d89 (75 acres)
- "Finney West" Single (orange circle): d47 (64 acres); d49 (29 acres)

[4] U.S. Fish and Wildlife Service. 2011. Revised Recovery Plan for the Northern Spotted Owl (*Strix occidentalis caurina*). U.S. Fish and Wildlife Service, Portland, Oregon. xvi + 258 pp.

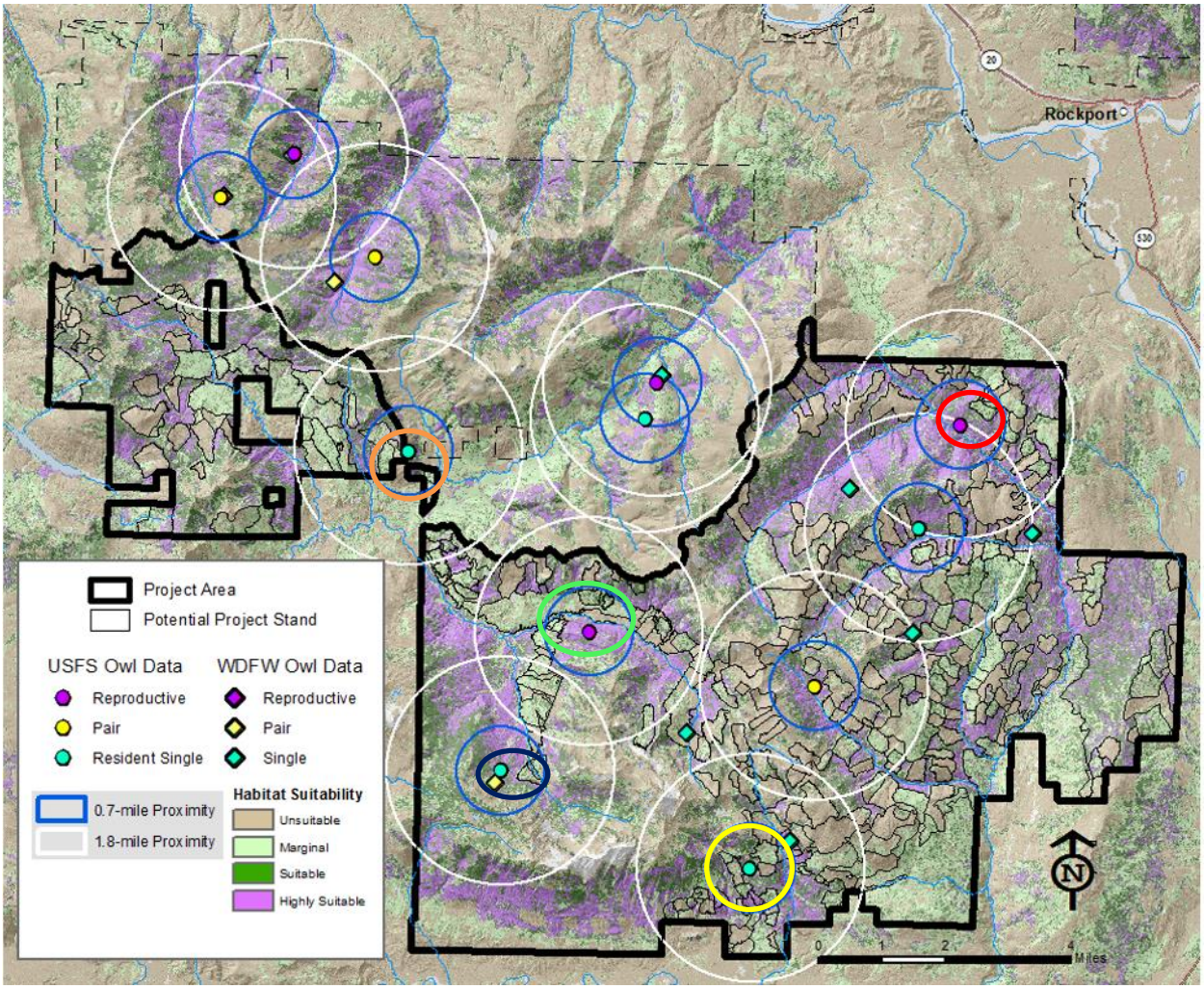

Figure 1. Old growth suitability map, proposed treatment areas and spotted owl circles from the Appendix of Wildlife Figures. Includes color-coded "circles of commercial harvest concern."

SNAGS

We recognize that the short-term loss of small diameter snags is predicted to be outweighed by the long-term benefits of large snag creation and retention, and appreciate the PDC W6 to "…designate wildlife trees to retain that include dominant trees for future large snags and marking of deformed green trees to retain for future wildlife trees. Snags would be created or protected through treatment of green trees with high stumping of hazard trees and leaving green trees around snags of greater than 21 inches" (Wildlife Report Table 5.1 p. 11). Please include all Wildlife PDCs from the Wildlife Report in the final EA. Nonetheless, we would be remiss if we didn't have some concerns about the reduction of snags during the project's implementation (draft EA p. 77). There are no proposed high topping or gridling treatments for snag recruitment within the draft EA. Why not? Are there no appropriate trees to do so?

COMPLEX EARLY SERAL

As mentioned under VDT, we recognize the value of large blocks of complex early seral habitat to ungulates, pollinators, and other early seral species and question its removal from the project since the scoping period. Will the canopy gaps created by VDT and persisting up to 50 years provide sufficient CES within this project footprint? Are there places within the project where large blocks of CES could be appropriately added, temporally and spatially? We are particularly curious about adding CES in the Coal Mountain/far west area of the project for North Cascades elk moving south across SR 20.

Aquatic

We note that there are 303(d) listed impaired waters within treatment areas (draft EA p. 37). Healthy waters are critical to the health of fish and aquatic species, but also to downstream communities. It is critical that management decisions (not just PDCs and BMPs) mitigate increasing climate-related threats to water quality, infrastructure, property, and public safety for surrounding communities and visiting recreationists. Noting this, is it possible that PDCs and BMPs could be further improved to decrease the effects of determination of listed fish and essential habitat? We look forward to seeing the NMFS Biological Opinion regarding listed fish protections and treatment tradeoffs.

The draft EA states that it is difficult to quantify the long-term benefits of project actions to fish and fish habitat (p. 50). We wonder if the Tribes have data or knowledge that could help with such estimates?

CLIMATE CHANGE

The EA would benefit from identifying potential locations of fire and climate refugia within the project area and at the watershed scale.[5,6,7] That is, what areas are expected to be most resilient to the effects of climate change, where valuable physical, ecological and socio-cultural resources will persist?

We understand that methods to calculate and account for carbon sequestration loss or gain are being decided at a national level (K. James personal comms. March 29, 2021). We look forward to when this USFS policy is available for use in planning.

[5] Meigs, G., Dunn, C., Parks, S., and Krawchuk, M. 2020. Influence of topography and fuels on fire refugia probability under varying fire weather conditions in forests of the Pacific Northwest, USA. Canadian Journal of Forest Research. Volume 50, Number 7. https://doi.org/10.1139/cjfr-2019-0406

[6] Morelli, T., Barrows, C., Ramirez, A., Cartwright, J., Ackerly, D., Eaves, T., Ebersole, J., Krawchuk, M., Letcher, B., Mahalovich, M., Meigs, G., Michalak, J., Millar, C., Quinones, R., Stralberg, D., and Thorne, J. 2020. Climate-change refugia: biodiversity in the slow lane. Front Ecol Environ; 18(5):228–234. doi:10.1002/fee.2189

[7] Krawchuk, M., Haire, S., Coop, J., Parisien, M., Whitman, E., Chong, G., and Miller, C. 2016. Topographic and fire weather controls of fire refugia in forested ecosystems of northwestern North America. Ecosphere. Volume 7, Issue 12. https://doi.org/10.1002/ecs2.1632

MONITORING

Very little is said about monitoring in the draft EA outside of project design criteria and best management practices. The Final EA would benefit from the inclusion or summation of implementation, effectiveness, and validation monitoring recommendations with input from each specialist. While a more detailed monitoring plan could be drafted collaboratively outside the EA, the Final EA would benefit by having a monitoring section that includes:

- what monitoring programs/data currently exist in within the project area
- what monitoring you are already planning to do
- what other monitoring needs to be done and how it might be prioritized
- which monitoring activities the IDTeam will be a part of
- how the sale administrator will be involved in monitoring activities
- what the primary objectives are of current and future monitoring programs
- how monitoring outcomes will be used to drive adaptive management strategies
- where the gaps are in capacity and funding

CONCLUSION

We are grateful to see an integrated project with many restoration actions included such as:

- VDT and Stand Improvement to thin plantations and augment huckleberry habitat
- The application of prescribed and/or cultural fire to complete treatments and improve long-term ecological resilience
- Substantial road improvements, closures, and decommissioning
- Significant investments in aquatic restoration (stormproofing, AOPs, wood for instream habitat, beaver habitat enhancement, Texas Pond)
- Removal and restoration of the most egregious dispersed recreation impacts

In summary, we believe the Final EA and the project's ecological outcomes would benefit from:

- More details about silvicultural prescriptions including species and spatial heterogeneity, as well as the timing and prioritization of treatments, and how the prescriptions will create large, continuous blocks of late-successional habitat for late seral species
- A closer look at complex early seral possibilities within the project area
- Increased Tribal input regarding fire/fuels, roads, and fish
- Identified locations of fire and climate refugia within the project area and at the watershed scale
- The inclusion or summation of implementation, effectiveness, and validation monitoring recommendations

We are excited to see more forest health work being completed on the Mt. Baker-Snoqualmie National Forest. The right treatments in the right locations will more quickly restore the ecological processes necessary for long-term resilience, better preparing these forests to withstand the impacts of climate change and future atmospheric river events. Thank you for considering our comments.

Sincerely,

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Cc: Dave Werntz, M.S., Science and Conservation Director