

REGIONAL ECOSYSTEM OFFICE

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MEMORANDUM

DATE: June 22, 2018

TO: Michelle Capp, District Ranger, Cle Elum Ranger District, Okanogan-Wenatchee National Forest

FROM: Becky Gravenmier, Regional Ecosystem Office Representative to the Regional Interagency Executive Committee

SUBJECT: Regional Ecosystem Office Review of the Swauk Pine Restoration Project on the Cle Elum Ranger District of the Okanogan-Wenatchee National Forest

Summary: The Regional Ecosystem Office (REO) interagency Late-Successional Reserve (LSR) Work Group has concluded its review of the Swauk Pine Restoration Project, within the Swauk LSR on the Cle Elum Ranger District, Okanogan-Wenatchee National Forest (Forest). The Forest proposes to treat approximately 4,200 acres within the LSR, 2,865 of which will be prescribed fire, while the remaining acres will be treated mechanically. Of these treatments, the REO is reviewing 3,703 acres of treatment in dry-mixed conifer forest. The treatment is designed to reduce the risk of large-scale fire while retaining targeted denser forest stands that function as habitat for late-successional species such as the northern spotted owl. The REO, based upon the review by the LSR Work Group, concurs with the Forest's finding that the proposed actions are consistent with the Northwest Forest Plan (NWFP) Standards and Guidelines (S&Gs).

Basis for the Review: The Swauk LSR is addressed under two LSRAs, the Wenatchee Forest-Wide LSRA, and the Eastern Washington Cascades LSRA. Both LSRAs were reviewed by the REO and found consistent under the NWFP S&Gs (C-11). The REO review letter for those LSRAs states that future silvicultural activities described within the LSRAs that are consistent with the NWFP S&Gs do not need further REO review. Hence, proposed activities in the Swauk Pine restoration project that meet those treatment criteria are not subject to review under this memo. Specifically the forest has determined that the treatments in Aspen and Meadows, off-site ponderosa pine plantations, and bitterbrush communities are consistent with either the subject criteria in the LSRAs or with silviculture exemption criteria already described by the REO (REO memos 362, 694, and 801).

The purpose of the Swauk Pine restoration project is to improve terrestrial resilience to wildfires and other disturbances while conserving existing late-successional habitat. The current landscape condition is highly susceptible to both uncharacteristic fire and pathogens, and does not support late-successional forest dependent species to full potential. Specific risk reduction treatments have been carefully located and designed to lower the probability of quality habitat loss while improving late-successional forest development. Consequently, REO is reviewing this project under the guidelines for risk reduction activities found on pages C-12 to C-13 of the NWFP S&Gs.

Background and Project Description: Swauk Pine is an integrated risk reduction project, focusing on the dry mixed-conifer vegetation community, which is currently on a trajectory likely to result in the loss of key late-successional structure within the LSR. LSR treatments are designed to meet several objectives, including:

- Lower the risk of crown fire to enhance resilience of dry mixed-conifer forest, including current and future northern spotted owl habitat;
- Conserve existing quality northern spotted owl habitat, and culture old multi-story forest on north aspects and valley bottom refugia;
- Culture larger patches of old single-story forest, particularly on ridgetops and south aspects;
- Increase the distance between patches with higher crown fire potential by thinning and burning;
- Restore ecological processes dependent on fire and help re-establish a low severity fire regime;
- Maintain within-stand structural diversity.

A total of 3,703 acres of dry mixed conifer forest will be treated by either prescribed fire (2,406 ac) or mechanical treatment with underburning (1,297 ac). Prescribed fires are to be of low intensity, designed to be patchy rather than a contiguous and homogeneous burn, and may kill a small percentage of trees, creating a new cohort of snags. The remaining project description that follows reflects the mechanical treatments with underburning.

Stand treatments will entail thinning from below by marking individual as well as clumps of trees to provide within stand structural diversity. All legacy tree structure will be retained. Clumps, as well as treatments with higher levels of canopy retention (see below), will be targeted lower on slopes and in deeper soil sites with higher productivity where denser patches are more likely to be retained. Clumps will also be located around snags, existing down wood clusters, and mistletoe infection centers to retain desirable late-successional old-growth structure. Treatments with lower tree densities are targeted higher on the slopes where sites are hotter and drier.

The desired future condition of the dry mixed-conifer type is old single-story forest on south aspects and lower elevations, old multi-story forest on the refugia of north slopes and upper elevations, and a mix of the old forest types in mid-elevations. Desired old single-story forest would have $\geq 60\%$ canopy cover with a majority of the canopy consisting of trees $>25'$ dbh and an understory of $\leq 20\%$ canopy cover. Old multi-story forest would have a $\geq 60\%$ canopy cover with a majority of the canopy consisting of trees $>25''$ dbh and an understory $\geq 30\%$ canopy cover.

Prescriptions entail treating to a range of canopy cover, based on the site's ability to sustain the different stand densities. All mechanical treatment areas include underburning, currently have an average canopy cover of 60%, and fall into one of four retention densities: 1) retain 45-55% canopy cover (221 ac); 2) retain 35-45% canopy cover (114 ac); 3) retain 30-40% canopy cover (878 ac); and 4) retain 20-30% canopy cover (35 ac).

While most of the project is consistent with actions described in the LSRA, one exception exists where ground disturbing activities occur within the spotted owl 0.7 mile radius breeding circles and reduction of nesting/roosting/foraging habitat occurs below 60% thresholds within the 1.8 mile radius home range circles. Since the thresholds were established in 1997, it has been determined that these denser stands of nesting, roosting, and foraging habitat are beyond the long-term sustainability of many sites in the Swauk LSR. For example, analysis of forests prior to fire suppression show that sustainable stand densities from that era are 100-200% lower than today's densities. This realization, combined with additional habitat loss from stand-replacement fire in and adjacent to the Swauk LSR, has increased the concern over sustaining these stands in the long term and led the Forest to conclude that some strategically located, high density stands required treatment to conserve the remaining, limited quantity of late-successional habitat.

Review of the Project: The LSR Work Group first met with the Forest on July 11, 2016, wherein the Forest provided a project summary. Multiple exchanges between the Forest and the work group occurred in developing the necessary documentation to support the project. In addition, a field trip to the project occurred in May of 2018. Final documents provided by the Forest are the Swauk Pine Restoration Project LSR Consistency Review, dated April 12, 2018, and the Swauk Pine Restoration Project LSR Consistency Review-Addendum, dated June 12, 2018. The LSR Workgroup based its review on these documents and concurs with the Forest's conclusion that the proposed treatment is consistent with the S&Gs and meets the objectives for LSRs for the following reasons:

- The project area is at very high risk for human caused fire ignitions due to its high urban interface presence, destination-grade motorized recreation opportunities, dispersed camping, and mining. The Swauk Pine planning area portion of the LSR has the least capacity to sustain dense, late-successional stands in the long-term, being located in one of the driest and hottest portions of the LSR. The combination of high ignition risk and limited sustainability makes this location within the LSR a priority for treatment.
- The location of Swauk Pine units are strategically placed to connect with previous fuel treatments, reducing the chance of crown fire development, increasing the effectiveness of suppression forces, and reducing the risk of fire spread to the surrounding LSR landscape. In addition, enacting maintenance burns will ensure that treatments remain effective.
- Treated stands reduce the risk of loss of large old trees (legacy structure), which can take up to 200 years to replace if lost in a high severity fire. Modeling of stand conditions after a wildfire shows less large tree loss and more near-term recruitment of large trees in treated areas
- Treatments focus on dry south, west, and east slopes on soils with poor water-holding capacity and where denser patches of late-successional forest are least-likely to be retained over the long term.
- Proposed treatment stands are not currently diverse or complex late-successional old-growth forest, and will not soon meet late-successional criteria. Treatments focus on mid-seral stands with an emphasis to develop them to more functional patches of old multi-story forest amidst a matrix of single-story forest structure
- Spotted owl habitat quality and site occupancy is lower in the Swauk Pine area than elsewhere in the LSR, limiting effects to owls in the LSR. Nearly all spotted owl nesting/roosting habitat was retained, and treatments adjacent to these stands serve to reduce crown fire risk and improve their likelihood of retention during a fire. Where nesting/roosting

habitat was designated for treatment, it was limited to within a spotted owl prey base research project, the results of which are expected to improve management and conservation of the species.

Conclusion: Based on the REO LSR Work Group's review, the REO concurs with the Okanogan-Wenatchee National Forest's conclusion that the Swauk Pine Restoration Project is consistent with the NWFP risk reduction S&Gs. If you have questions regarding this review, please contact Maximillian Wahlberg at 503-808-2284.



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