

# REGIONAL ECOSYSTEM OFFICE

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## MEMORANDUM

**DATE:** March 23, 2016

**TO:** David R. Myers, Forest Supervisor, Shasta-Trinity National Forest

**FROM:** Jessica Rubado, Regional Ecosystem Office Representative to the Regional Interagency Executive Committee

**SUBJECT:** Regional Ecosystem Office Review of the Elk LSR Enhancement Project, Shasta-McCloud Ranger District, Shasta-Trinity National Forest

**Summary:** The Regional Ecosystem Office (REO) interagency Late-Successional Reserve (LSR) Work Group has concluded its review of the documents provided by the Forest regarding proposed activities in LSRs within the anticipated action of Elk LSR Enhancement Project within the Elk Flat LSR RC-360, Shasta-Trinity National Forest. The REO, based upon review by the LSR Work Group, concurs with the Forest in its finding that the Elk LSR Enhancement Project is consistent with the Ecological Principles for Management of Late-Successional Forests under the Northwest Forest Plan (NWFP).

**Basis for the Review:** Risk reduction and silviculture treatments in LSRs are subject to REO review under the NWFP S&G (C-12) if they do not meet existing criteria in the LSR Assessment or the exemption criteria for commercial thinning in the REO Memorandum #694 "Criteria to Exempt Specific Silvicultural Activities in Late-Successional Reserves and Managed Late-Successional Areas from Regional Ecosystem Office Review" dated July 9, 1996. As required by the NWFP S&G (C-11), the Forest prepared a Late-Successional Reserve Assessment (LSR assessment). The 1999 Forest-wide LSR Assessment, which encompasses the Elk LSR Enhancement Project, was reviewed and found to be consistent under the NWFP standards and guidelines (C-11). Although the LSR Assessment supports the thinning, the projects came before the LSR Workgroup for review because certain recommendations in the LSR Assessment and Exemption Criteria cannot be met and promote successful maintain natural species diversity and reduce risk of undesirable fire .

**Background and Project Description:** The Elk Late-Successional Reserve (LSR) Enhancement Project planning area is located in the California Cascades Province on the McCloud Ranger District of the Shasta-Trinity National Forest (SHF) within the Ash Creek 5<sup>th</sup> field watershed, approximately 9 miles northeast of McCloud, California. The 3519-acre project area incorporates all 3056 acres of the Elk Flat LSR (LSR #RC-360) and 463 adjoining acres in matrix land allocation. The legal location is: T40N, R1W, Sections 4 and 5 and T41N, R1W, Sections 27 to 34, Mt. Diablo Meridian, Siskiyou County, California.

Silvicultural treatments proposed for the Elk LSR Enhancement Project are consistent with pertinent S&Gs in the ROD (C-12), and with LSRA treatment criteria for density management in stands less than 80 years of age but vary from existing review exemption criteria (REO Memorandum #694 dated July 9, 1996 and REO Memorandum #801 dated September 30), by:

- 1) Gaps - Creating gaps larger than ¼-acre in extent (REO Memorandum #694, as amended by REO Memorandum #801, LSRA Activity Design Criteria (ADC) #4c – Thinning [Hazard Reduction]). Specifically, 0.6 to 2.0 acre gaps are proposed to create structural and age diversity and provide for successful regeneration of shade intolerant pine (planted with a mix of species) in pine and dry mixed-conifer vegetation types.
- 2) Extensive Mortality Area (EMA) - (LSRA Activity Design Criteria #7 b, c, and h– Fuel Reduction) While no live trees would be cut, some live tree mortality would occur during prescribed fire activities within approximately 79 acres of the 3519-acre project area. In addition, there will be some snags and logs retained, but many will be consumed by the burn. Post-burn, coarse woody debris will likely exceed the 35 tons per acre that are desired, and not all of the logs will be consumed, there will be approximately 5-35 tons / acre across the EMA post treatment.

The primary purpose of the Elk LSR Enhancement Project is Risk Reduction in Early, Mid and Late-Successional Habitat and Increase Stand Resilience to Disturbance (Objectives I and III of the LSRA) Reduce Risk from Insects, Disease and Fire in Early-, Mid- and Late-Successional Habitat, and Increase Stand Resilience to Disturbance (LSRA, pp. 174-179). A secondary purpose is to Accelerate Development of Late-Successional and Old-Growth Forest Characteristics (LSRA Objective II) and Promote Late-Successional Habitat Connectivity (LSRA Objective IV).

The majority of the forested portion of the project area is departed from the natural fire regime and is at risk of large-scale, undesirable disturbance due to existing fuel loading from the ongoing mortality that has occurred from high stand densities and associated stress from overstocking, insects, and disease and drought conditions. Without action, further stand and structural composition will be lost due to a combination of continued density-related mortality, root disease, insect attacks and predicted lethal fire effects. These losses have and will continue to result in a further loss and decline of late-successional habitat and a failure to maintain or meet Forest Plan direction and LSRA objectives for the LSR if left untreated.

Most of the project area (76 percent) is classified as ponderosa pine forest. Because of the fire suppression history and lack of a natural fire regime in the project area, approximately 80 percent of the forested stands in the LSR are highly to extremely dense, particularly in relation to the survivability of pine. The current conditions also reflect an increase in a shade-tolerant understory and midstory, composed primarily of dense white fir, incense cedar and pine with average diameters of 12-16 inches and smaller pockets of pine regeneration.

There are areas in the LSR that provide relatively large contiguous blocks, and smaller patches, of late-successional habitat. During project design, these areas were deferred from mechanical thinning treatments as they include high value habitat for the northern spotted owl.

There is an approximate 79-acre area of contiguous pine mortality in the north central portion of the project area. This extensive area of standing snags, along with dead and down material in excess of 100 tons / acre, is a safety concern for the public and firefighters. If a fire were to start in this area, fire managers would not put equipment or people in the EMA to suppress the fire. This could result in a much larger fire with undesirable effects to the surrounding stands and LSR characteristics. There is no harvest proposed. While green trees would not be cut or thinned in this area, there will be some mortality to the live trees within the EMA during burning operations. However, this treatment affords protection to surrounding stands through a reduced potential for high intensity fire and spread.

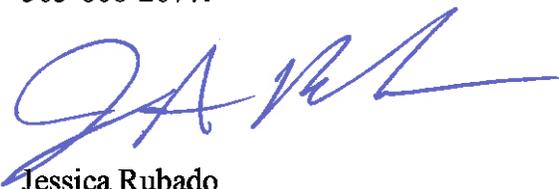
The gaps (group selections) are designed to provide sufficient openings for conifer regeneration including native shade intolerant pine. The group selections (gaps) average approximately 1.5 acres and range up to 2 acres in size to promote the establishment of shade intolerant pine as part of the mixed species regeneration. Establishment of pine will also help reduce risk of undesirable fire effects. The gaps would be reforested to increase/create stand structural and species heterogeneity.

A study of mixed species regeneration in group selection openings ranging from 0.1 to 1.0 hectare in northern California found an average 54% seedling height increase in 1.0 hectare openings compared to the smallest 0.1 hectare openings, and specific to ponderosa pine “light availability alone was a good predictor of height growth, and thus is likely the dominant influence in limiting ponderosa pine height.” (York et al, 2003).

**Review of the Project:** The Shasta-Trinity Forest staff discussed the Elk LSR Enhancement Project with the LSR Work Group on February 25, 2016 via conference call. Follow-up discussions occurred between the project and workgroup silviculturists and fuels specialists. The Work Group’s review was based on these discussions and review of several documents including “Elk-REO-letter”, dated March 18, 2016.

**Conclusion:** Based on the interagency REO LSR Work Group’s review and conclusions, the REO concurs with the Shasta-Trinity National Forests conclusion that the Elk LSR Enhancement project is consistent with the Northwest Forest Plan.

If you have questions regarding this review, please contact Kim Mellen-McLean at 503-808-2677.



Jessica Rubado

**Regional Ecosystem Office Representative to the Regional Interagency Executive Committee**

cc: Carolyn Napper, District Ranger  
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