REGIONAL ECOSYSTEM OFFICE

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MEMORANDUM

DATE: May 15, 2012

TO: Chris Worth, Forest Supervisor, Mt. Hood National Forest

FROM: Michael Hampton, REO Representative to the REIC

SUBJECT: Regional Ecosystem Office Review of the Jazz and Grove Thin Projects, Clackamas River Ranger District, Mt. Hood 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 Mt. Hood National Forest. We were asked to review proposed activities in LSRs within the anticipated action of Jazz and Grove Thins within the Collawash LSR (210) and the Roaring River LSR (207a), Clackamas River Ranger District, Mt. Hood National Forest. The REO, based upon review by the LSR Work Group, concurs with the Forest in its finding of consistency with the Standards and Guidelines (S&G) under the Northwest Forest Plan (NWFP) for the Jazz and Grove Thins.

Basis for the Review: 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 North Willamette LSR Assessment, which encompasses the Jazz and Grove Thins, was reviewed and found to be consistent under the NWFP standards and guidelines (C-11). Although the North Willamette LSR assessment supports the thinning, the projects came before the LSR Workgroup for review because certain recommendations in the LSR Assessment cannot be met while enhancing structural diversity as intended.

Background and Project Description: The stands proposed for treatment are plantations between 40 and 60 years old and are considered mid-seral stands. Canopy cover is 70-90% with relative densities greater than 70. All the units were originally clearcut and have yet to be commercially thinned. No snags or residual trees were left in the stands after harvest. However, varying amounts of down woody debris remained post-harvest and was usually dependent of the

type and success of site-preparation techniques used at that time. Trees are beginning to experience growth suppression and some mortality is occurring; mainly in the trees smaller than 10" diameter.

The LSR is dominated by Douglas-fir with minor amounts of western hemlock. Other minor species exist such as western redcedar, noble fir, pacific silver fir and grand fir. The quadratic mean diameter is approximately 13 inches.

These stands were uniformly spaced early in their development during planting and were later pre-commercially thinned to a uniform spacing. In generally, trees in dense stands have less opportunity to differentiate, requiring a longer time to express dominance and grow to their potential.

With no treatment, plantations reach density levels at which individual trees are competing with each other for growing space. When trees are tightly spaced in the interior of stands they are protected from the wind and do not develop resistant stems or roots. Trees growing under these circumstances become more dependent on neighboring trees for support and often become more susceptible to windthrow or breakage with wind or snow loading. Under drought conditions, trees tend to be more susceptible to other stressors such as insect and disease attack. When all trees slow in height growth, the stand begins to stagnate. Both understory and ground vegetation would continue to be suppressed.

Restoration thinning would be conducted to introduce structural diversity through variable spaced thinning. Diversity and variability would be introduced in several ways. The following is a summary of practices.

- Leave-tree spacing would vary within units and between units.
- Skips and gaps would be created in a variety of sizes. The sizes and total quantity would vary within and between units. (Skips are areas where no trees would be removed; gaps are areas where most or all trees would be removed.)
- Skips may be placed where there are special features such as clumps of minor species, large snags, wet areas, or locations of rare or uncommon species.
- Gaps would be up to one acre in size.
- Areas of heavy thinning (25 to 50 trees per acre retained) would be created in a variety of sizes 0.25 acre or greater. Heavy thinning is proposed to benefit species such as deer and elk as well as to enhance diversity.
- Leave trees may include minor species.
- Leave trees may include trees with the elements of wood decay.
- All non-hazardous snags would be retained.
- Existing down logs would be retained.
- Some snags and down logs would be created.

The cost of creating or leaving down wood in the amounts recommended by the LSR assessment would not allow for an economically viable timber sale. No other funding source is available to implement the thinning project, thus without an economically viable timber sale the benefits gained in terms of accelerating the development of other late-successional characteristics and increasing diversity would not be realized. Thus, the proposed thinning design will not meet the criteria in the North Willamette LSRA for down wood amounts – 10 to 15 percent cover within five years, and the Forest has brought the project to REO for review.

Review of the Project: The LSR Work Group reviewed materials submitted regarding the proposed action for the Jazz and Grove Thins. Members of the LSR Work Group also met with District staff on March 13, 2012. The Work Group's review was based on information obtained from these resources.

The interagency LSR Work Group review concluded that the proposed treatment in the LSR meets the objectives for managing LSRs. This conclusion was reached in part for the following reasons:

- Current Vegetation Survey (CVS) plot data indicate that in mid-seral natural second-growth stands (i.e. stands dominated by trees in the 8-21" diameter size class) there is an average of 63 snags per acre (3" diameter and greater). The CVS plot data also determined that the average amount of down wood in these mid-seral stands is 6.5 percent.

- Local plantation data (from stands similar to the proposed action) for snags and down woody debris indicate an average down wood percent cover of 5.9% (ranging from 1.5% - 15.4%); an average of 1.7 snags per acre > 10" diameter, and 6-20 snags per acre < 10" diameter.

- A recent sample of typical old-growth stands on the Forest found the amount of down wood cover to be approximately 9 percent.

- Recent fires and endemic levels of Douglas-fir bark beetle and root rot diseases have created a residual of down wood at high densities above what is found in a referrence condition. DecAID wildlife data shows a very good condition for wildlife tolerance levels and the percent of the watershed that would be utilized by pileated woodpeckers and northern flying squirrels. Based on the amount of high densities of down wood it is probably not necessary to create down wood in this watershed. The LSRA however, requires a higher level of downwood in the LSR units than is indicated by DecAID analysis.

- The LSRA was developed prior to the publication of the DecAID analysis tool. Current science indicates that only the high end of the historic range of variability for down wood is optimum for small mammals.

- For this landscape, down wood does not seem to be limiting compared to the need for large-tree structure and a multi-storied/multi-species assemblages of trees. Spotted owls would be better served by altering plantations to create a more diverse stand with both skips and thinned areas to create a flush of understory growth, a multi-storied stand and increased tree size. Down wood would be emphasized in skips.

- Recent research has shown that spatial variability, including gap creation, may have an especially important role in moving young stands toward late successional structure (Dodson 2012). Gaps are major structural components of many late successional forests but may require centuries to develop without management intervention.

- The commercial thinning is designed to leave sufficient levels of down wood and result in spatial diversity and enhanced complexity with advanced understory development.

Conclusion: Based on the interagency REO LSR Work Group's review and conclusions, the REO concurs with the Mt. Hood National Forest's conclusion that the Jazz and Grove Thins on the Clackamas River Ranger District are consistent with the Northwest Forest Plan.

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

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cc: Jim Roden, Mt. Hood NF
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