Management of Forest Stand Cohorts (Westside)

Cancels: PR 14-006-090, Management of Forest Stand Cohorts (Westside) (July 2008)

Date: June 2009

Application: All forested state trust lands, westside

Discussion

Forest stand "cohorts" are statistically distinct forest stand components whose management objectives make them important. For example, *legacy cohorts* such as live wildlife reserve trees, snags, and down dead logs, are important because statutes, regulations, and the Department's HCP require their management and retention beyond a single rotation. These multi-rotational *cohorts* co-exist with one or more rotational, *commercial cohorts* within the same forest management unit (FMU). *Legacy cohorts* are managed to achieve environmental FMU objectives (such as wildlife and mycorrhizal habitats). One or more *commercial cohorts* within the same FMU are managed to achieve economic FMU objectives by generating revenue for the trusts.

The purpose of this procedure is to provide unified direction for management of forest stand cohorts. This procedure will result in a structured silvicultural approach that reaches beyond uniformly applied classical even-aged—clearcut, seed tree, and shelterwood—and uneven-aged silvicultural systems. This approach, cohort management, synchronizes with site-specific silvicultural prescriptions that simultaneously manage distinct cohorts to achieve rotational and multi-rotational social, environmental, and economic FMU objectives. The department will include provisions of this procedure in its training program.

Action

Safety regulations pre-empt all other requirements and should be addressed to maintain worker safety. See also TK 14-006-090, Forest Worker Safety and Operational Considerations for Leave Tree Locations.

Cohort management shall integrate relevant social, environmental, and economic FMU objectives into site-specific, rotational silvicultural prescriptions. Cohorts may serve multiple FMU objectives. Leave trees should detract no more than approximately 25 percent from first decade uninhibited growth potential for species prescribed for reforestation (equivalent to a Curtis' RD for leave trees less than 7.5 if the reforested cohort is Douglas-fir) and to ensure negligible impact on survival.

At least one commercial cohort shall be managed, generally on a rotational basis, for maximum benefit to trust beneficiaries, consistent with other FMU and landscape objectives. The final harvest system of Variable Retention Harvest is well-suited to managing cohorts.

Multi-rotational (legacy) cohorts shall be managed to levels directed in the table below.

Specifications for Management of Legacy Cohorts*			
Legacy Cohort	**Average /Acre**	**Dimensions**	**Proximity**
Very large diameter, structurally unique conifers (when present, may be used in lieu of wildlife trees, snag recruits, and snags—listed below)	The BNR will be notified if any very large diameter, structurally unique conifers are harvested (see PR 14-004-045, Old Growth Timber Harvest Deferral and Protection)	• Native conifer species • Generally ≥ 60" DBH • Large strong limbs • Open crown • Hollow trunk • Broken top and limbs • Deeply furrowed bark	NA
Large, Structurally Unique Green Trees Suited for Wildlife	≥ 2 trees	• ≥ 1 tree, from largest diameter class • ≥ 1 tree, from dominant crown class	At least 1 clump per 5 acres, and a distance between leave trees/clumps of no more than 400 feet; leave trees should be toward FMU interior, except as needed for ecological objectives;
Snag Recruits	≥ 3 trees	• Intermediate to dominant crown class • ≥ 10 inches DBH, ≥ 30 feet in height, and ≥ 33 percent live crown ratio • Select larger diameter trees first, preferably those with structural deformities and cavities	
Snags (standing dead trees suitable for wildlife)	≥ 3 snags (safety requirements shall be met)	• ≥15 inches DBH, ≥ 30 feet tall, if available • Select largest diameter class cavity trees first • If snags cannot be left safely, replace with suitable live trees	Leave snags as consistent with safety requirements
Down dead wood	≥ 2 logs	• Small end diameter ≥ 12 inches, length ≥ 20 feet • Select larger diameter logs first	None

***Table Notes:**

1. The specifications in the table are for the minimum numbers of legacy cohorts to be left at final harvest only (not to be confused with cohort requirements for specified wildlife habitats).

2. Very large diameter, structurally unique conifers, if present, supersede the requirements for the next three categories (i.e., large structurally unique trees, snag recruits, and snags)

3. The requirements, other than for very large diameter structurally unique conifers, originate from WACs or the HCP for forested state trust lands.

4. All requirements may be modified for safety reasons as specified in TK 14-006-093, Forest Worker Safety and Operational Considerations for Leave Tree Locations.

5. Acre-by-acre densities of legacies are variable, so long as proximity criteria are followed, and FMU averages meet or exceed minimum requirements. FMU-specific objectives may dictate higher—but not lower—retention levels, particularly when managing for habitat objectives and combined effects of social, environmental, and economic objectives. However, growth of the next rotation may not be unduly impeded by overstory densities. Scatter leave trees in clumps or individually, depending on specific habitat objectives for the particular area, throughout the FMU where practicable. For example, trees may be clumped to improve wildlife habitat and/or to protect trees from severe weather conditions. Where practicable, the density of clumps will not be less than one clump per five acres unless done to meet a specific ecological objective.

6. Leave tree clumps may be created of sufficient size to safely incorporate hazardous wildlife trees or snags.

7. Retain additional live trees if fewer than three snags per acre are available prior to harvest, or if fewer than three snags per acre can be left for safety reasons. The average total number of stems per acre retained after final harvest will be at least eight.

8. Priority of retention will be given to tree species with propensity to develop cavities while standing. Choose large trees with structural characteristics important to wildlife (e.g., large limbs, open crowns, runners, broken tops, etc.) and those considered to be old growth remnants (i.e., "very large diameter, structurally unique conifers").

9. Legacy tree species in the stand after harvest should be generally representative of legacy species diversity prior to harvest.

10. The manager of the Land Management division may approve alternate leave tree levels provided that legal, regulatory, and HCP intents remain.

APPROVED BY: /s/ Gretchen Nicholas
Gretchen Nicholas, Manager
Land Management Division

SEE ALSO:

- PR 14-004-045, Old Growth Timber Harvest Deferral and Protection (Westside)
- PR 14-001-030, Settlement Agreement