

APPENDIX VIII

Detailed Discussion on Forest Stewardship Zones

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1.0	TIMBER ZONE	1
2.0	HABITAT ZONE	2
3.0	OLD-GROWTH ZONE	3

1.0 Timber Zone

Landscapes designated as Timber Zones will emphasize commercial timber production. This zone will be primarily landscape units with a low to moderate proportion of remaining old-growth forest. Resource management will meet the requirements of the FPC and protect soil productivity, water quality and critical wildlife habitat. About 20% of the area is assumed to be unavailable for harvest due to sensitive sites, deer winter range, riparian buffers and other landscape-level reserves.

We anticipate that nearly all harvesting will use modified, even-aged silvicultural systems; some group selection could occur on sites that would otherwise prohibit or severely restrict harvesting, such as sensitive terrain stability areas. We anticipate 90% of cutblocks will use retention and seed-tree systems, leaving a minimum of 5% dispersed retention or 10% aggregated (group) retention. Percentages refer to basal area for dispersed retention and gross cutblock area for group retention. All retention is intended to be long-term (i.e. at least one rotation), with no intention of future removal. It is likely that the same areas will be left perpetually to provide late-successional structural attributes (e.g., snags, large trees, woody debris, diverse canopy layers), but natural disturbance events may lead to some shifting of retention patches over time. Cutblocks and retention will intentionally use a wide range of sizes, but a 40 ha maximum cutblock for 5% dispersed retention. Shelterwood systems will be used for some high elevation sites - south-facing slopes where shading will benefit regeneration, sensitive soils or viewscapes. Generally shelterwoods will retain 50 to 100 trees per hectare, depending upon the forest type. All shelterwoods will meet the long-term retention minimums after the final removal cut with either dispersed or group retention. Leave trees in all seed-tree systems will be left as long-term reserves.

Cutblocks using the proposed new “retention” silvicultural system must have the majority (>50%) of the cutblock under forest influence, defined as the bio-physical effects occurring within one tree-length of standing trees or forest edges. Retention must also be distributed throughout the entire cutblock. The Weyerhaeuser Coastal Group guidelines for distribution of retention are:

- A maximum of 4 tree heights (or 200 m; whichever is less) between stand edges or retention groups, with groups preferably 0.2 ha or greater in size;
- A maximum of 2 tree heights between single trees or small clusters of trees for dispersed retention.

Under these guidelines, the forest influence and distribution criteria will easily be met. Nearly all points within a group retention cutblock will be within 2 tree lengths of an edge (minor exceptions may occur to facilitate economical harvesting). To meet the 5% basal area criteria, dispersed single trees usually will be less than a tree-length apart, but the 2-tree-length maximum provides flexibility for yarding layout and dispersal of small groups of trees.

Weyerhaeuser Coastal Group analysis shows that prompt establishment and full stocking give the best return among silvicultural investments. The Weyerhaeuser Coastal Group expects to continue an emphasis on prompt regeneration to high stocking levels within the Timber Zone using a combination of planted and natural regeneration. We estimated that 75% of cutblocks in this zone will be planted and we will use genetically improved planting stock when available. Other establishment and stand tending treatments will be done to meet reforestation requirements and consistent with social, environmental and economic objectives.

Critical to the success of variable retention is the design and configuration of cutblocks and stand entries to minimize wind damage. There is potential for negative economic impacts if windthrow is not managed properly. Losses from wind are unavoidable; however, the risks and economic impacts can be managed through planned salvage or retention of downed wood when it meets habitat objectives. Our overall strategy of aggregated (group) retention should result in far less wind damage than a reliance on dispersed retention. Though wind damage is hard to predict, the knowledge gained in the past 10 years will help us design harvesting blocks to minimize the impacts. Multiple stand entries are generally better than a single large removal for minimizing wind damage. Larger trees are often more windfirm in exposed situations. In the Timber zone, the Weyerhaeuser Coastal Group plans to salvage economical timber in windthrow retention patches where serious wind damage occurs, subject to safety and the minimum retention requirements to meet ecological objectives. Our increased use of helicopter grapple yarding should allow us to retrieve small patches of windthrow and individual trees that were uneconomical to salvage in the past.

2.0 Habitat Zone

The management objective for the Habitat Zone is to emphasize conservation of bio-diversity and wildlife habitat with low-intensity harvesting. This zone will be primarily landscape units with a moderate to high proportion of remaining old-growth forest. About 30% of the area is assumed to be unavailable for harvest due to sensitive sites, deer winter range, riparian buffers and other landscape-level reserves. We anticipate that second-growth harvesting within this zone will use modified even-aged silvicultural systems (75% retention, 25% shelterwood). Old-growth harvesting will employ a mix of retention (25%), shelterwood (50%)

and group selection (25%) systems. The percentage targets will be adjusted to meet specific landscape objectives but convey the general approach of providing greater stand-level retention throughout the landscape. All cutblocks will leave at least 15% of the stand in dispersed or aggregated retention, with groups of various sizes. This retention is long-term (i.e. at least one rotation). Cutblocks will intentionally use a wide range of sizes. Uniform, group, natural and irregular shelterwood systems will be used to meet a variety of desired future stand structural conditions, as defined by landscape-level habitat goals. Shelterwoods will retain 50 to 200 trees per hectare depending upon the forest type. Group selection will consist of openings less than one hectare (generally 0.25 ha to 0.5 ha), with at least 3 age classes per stand and 20- to 40-year cutting cycles.

Reforestation in the Habitat Zone will meet FPC guidelines, using a combination of planted and natural regeneration. We estimate that 75% of cutblocks in this zone will be predominantly natural regeneration. In areas that receive excessive Hw and Ba natural regeneration, we will fill-plant with other species (e.g., Yc, Cw, Fd) to improve species diversity and stand value. Other establishment and stand-tending treatments will be done consistent with habitat objectives or positive economic returns. Licensee may salvage economical timber in windthrow retention patches where serious wind damage occurs, leaving at least 20% of the killed trees, subject to safety and the minimum retention requirements for Wildlife Tree Patches.

3.0 Old-Growth Zone

The management objective for the Old-Growth Zone is to conserve the larger, contiguous old-growth areas and restore old-growth attributes on previously logged areas within the landscape unit, allowing minimal harvesting. This zone will be primarily Crown lands with a high proportion of remaining old-growth forest. About 66% of the old growth will remain in landscape reserves. All harvesting on the remaining 33% of the old-growth will use uneven-aged silvicultural systems, group selection and modified irregular shelterwoods. Second-growth harvesting will employ a mix of treatments to restore late successional stand attributes (i.e., old-growth recruitment and riparian restoration). Restoration treatments may include thinning to develop large stems, irregular spacing and gaps, and snag, cavity and den creation. All cutblocks will leave 20% of the stand in long-term (i.e. at least one rotation) retention groups. Group selection, estimated to be 2/3 of the harvesting, will consist of openings less than one hectare, with at least three age classes per stand and 30- to 50-year cutting cycles. The remaining harvesting will be done using a modified irregular shelterwood system (or multi-pass retention) that will maintain multi-aged stands with more dispersed retention than group selection. Up to 33% of the original stand volume will be cut at each entry, with cutting cycles of 30 years or more. The resulting stand structure will be similar to single tree selection without the frequent entries and complex management required. Rotation ages will be extended (90 to 150 years), depending upon site productivity.

Reforestation in the Old-Growth Zone will meet FPC requirements using natural regeneration. Where necessary, we will fill-plant to maintain species diversity. Other establishment and stand-tending treatments may be done as part of

second-growth restoration, consistent with habitat objectives. Limited salvage of economical timber may occur in areas with serious wind damage, leaving at least 50% of the killed trees.