

APPENDIX B

Riparian Management Provisions

Note:

Some pages in this document have been purposefully skipped or blank pages inserted so that this document will copy correctly when duplexed.

Table B-1. Riparian management provisions of the Plum Creek Timber Company Habitat Conservation Plan, the Tacoma Public Utilities Habitat Conservation Plan, the Washington State Department of Natural Resources Habitat Conservation Plan, and the Forest Practices Rules (WAC 222)

Program	Total Buffer	No Harvest Zone	Outer Zone(s)	Calculation Details	Notes
Plum Creek Timber Company Habitat Conservation Plan (HCP)					
Fish-bearing streams	200 feet on each side of stream	30 feet	170 feet	N/A	Outer zone of buffer is managed for large woody debris recruitment, late successional forest structure, channel migration and slope stability. Buffers are feathered such that more large trees are left at inner portion. Experience to date indicates that less than 15% of these buffers will be harvested.
Non-fish-bearing streams	100 feet on each side of stream	30 feet	70 feet	N/A	Buffers established only if stream is on federal late successional reserve land, in an adaptive management area, or where elevation and topography are suitable for spotted owl dispersal. Experience to date indicates that less than 15% of these buffers will be harvested.
Washington State Department of Natural Resources (WDNR) Habitat Conservation Plan					
Type 1-3 streams	100 feet or one site-potential tree height, whichever is greater, on each side of stream	25 feet	Depends on site: potential tree height, but at least 75 feet	Horizontal distance from, and perpendicular to, the outer margin of the 100-year floodplain.	In the outer zone minimal harvest is allowed, or that harvest which does not appreciably decrease stream shading, interception of sediment, or capacity of the buffer to provide nutrients and large woody debris. WDNR anticipates that only ecological restoration and selective removal of single trees would occur in this zone. After 100 feet the buffer is a low-harvest area, where selective removal of single trees or groups of trees, thinning operations, and salvage operations would occur.
Type 4 streams	100 feet on each side of stream	25 feet	75 feet	Same as above	
Wind buffers	Type 1-2, 100 feet, Type 3, 50 feet	N/A	100 feet Type 1-2, 50 feet, Type 3	In addition to riparian buffers	Established if the stands near Type 1-3 streams are prone to windthrow. Added to both sides if strong winds affect both sides of the stream.
Tacoma Public Utilities Habitat Conservation Plan					
Type 1 & 2 streams	200 feet	200 feet	None	N/A	Tacoma will manage HCP lands above the diversion dam according to three designations: Natural Zone, Conservation Zone, and Commercial Zone. The Natural Zone (5,850 acres) is a no-harvest zone. No even-aged harvesting is allowed in the Conservation Zone (5,180 acres), and no harvest of any kind is allowed in conifer stands over 100 years old. Uneven-aged harvest may occur in stands less than

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					<p>100 years old for the purpose of accelerating or enhancing the development of late-seral stage forests. Tacoma will manage the Commercial Zone (3858 acres) for even-aged harvesting on a 70-year rotation. Hardwood stands in the Conservation and Commercial Zones capable of supporting conifers may be clearcut and replanted with conifers. Salvage harvesting may occur except within the Natural Zone or in stands over 100 years old in the Conservation Zone. When conducting all harvesting, Tacoma will retain all safe snags and at least 4 green recruitment trees per acre. Clearcuts in the HCP area will not exceed 40 acres, and uneven-aged and salvage harvest units will not exceed 120 acres without prior review by the Washington Department of Fish and Wildlife and approval by the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. Even-aged harvesting will occur only when the surrounding forestland is stocked with conifers at least 5 years old or 5 feet high. Timber harvest in the Upper Green will occur only on sites with a Douglas fir site-index of 80 or greater.</p>
Type 3	200 feet	150 feet	50 feet	N/A	<p>The Outer Zone is a partial-harvest buffer of 50 feet. In these areas, the 70 largest conifers per acre will be left in the buffer. Preference will be given to trees that may contribute large woody debris or are already used by wildlife. Otherwise, the trees closest to the stream will be left.</p>
Type 4	50 to 100 feet	50 to 100 feet	None	N/A	<p>Type 4 buffers will be expanded to 100 feet in certain areas, including confluences with other streams and along low-gradient reaches.</p>
Type 5	50 feet	25 feet	25 feet	N/A	<p>The Outer Zone is a partial-harvest buffer of 25 feet. In these areas, the 50 largest conifers per acre will be left in the buffer. Preference will be given to trees that may contribute large woody debris or are already used by wildlife. Otherwise, the trees closest to the stream will be left.</p>

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Forest Practices Rules					
Type S & F streams	90 to 200 feet	50 feet	40 to 150 feet	Horizontally from the outer edge of the bankfull width or the channel migration zone, whichever is greater. Total width depends upon the soils at the site and the management option chosen for the inner zone.	Several management options are available for the inner zone, but forestry must be conducted to meet or exceed stand requirements that protect aquatic resources and riparian functions. The outer zone must have 20 trees per acre left after harvest. These regulations do not limit construction of stream crossings (roads).
Type Np and Ns streams	30 to 50 feet	See notes	See notes	Horizontally from the outer edge of the bankfull width or the channel migration zone, whichever is greater.	On Np streams, no-harvest 50-foot buffers are required in sensitive areas, such as upstream of confluence with Type S or F waters, seeps, etc. At least 50% of a Type Np stream's length must be buffered on both sides in segments not less than 100 feet. Where 50-foot buffers are not established on Np streams, and on all Ns streams, 30-foot equipment limitation zones established on each side. These regulations do not limit construction of stream crossings (roads).
Exempt parcels	29 to 115 feet	See notes	See notes	Horizontally from the outer edge of the bankfull width or the channel migration zone, whichever is greater, and extends to the line where the vegetation changes from wetland to upland or the line required to leave sufficient shade (see below), whichever is greater.	If a parcel is 20 contiguous acres or less, and if the landowner owns less than 80 acres, then the rules in effect on January 1, 1999, apply. Within the buffer, landowners must leave 50% of all trees alive and undamaged, and randomly distributed where feasible. These buffers are subject to shade requirements outlined below.
Shade requirements	See notes	See notes	See notes	Outside bull trout overlay, use temperature prediction method outlined in WAC to determine appropriate shade levels.	Within the bull trout overlay, all available shade must be retained within 75 ft. of the edge of the bankfull width or the outer edge of the channel migration zone, whichever is greater, along Type S or F waters. Outside the bull trout overlay, no tree may be harvested within 75 ft. of the outer edge of the bankfull width or the channel migration zone if the calculations show that it is providing the shade necessary to meet water temperature standards. Shade requirements are in addition to riparian management zone requirements. If the calculations indicate the site is substandard, no shade may be removed from the riparian management zone. These regulations do not limit construction of stream crossings (roads).

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