

## Decision Matrices

This table provides data to inform the Board’s decision on Riparian Rule prescriptions to meet the Protecting Cold Water criterion to the Maximum Extent Practicable.

Attributes	No Cut Buffer – Slope Distance (feet)					Variable Retention (VR)								Alternate Prescriptions				
														Staggered-Harvest/One-sided buffer		South-sided buffer		
	50	70	80	90	100	FPA	OFIC-E	AOL-B	RFPC-A	70/200	80/250	170/275	FMP	RFPC-B	AOL-A and OFIC-C	AOL -C	OFIC - F	RFPC -C
Rx Description (see below)																		
Predicted temperature change (°C)	1.15	0.64	0.43	0.29	0.18	1.45	1.37	1.31	1.25	0.87	0.59	0.33	0.2	0.65 <sup>1</sup>	0.97 <sup>1</sup>	?	?	?
(credibility intervals; °C)	(0.85-1.48)	(0.42-0.88)	(0.22-0.66)	(0.07-0.52)	(-0.03-0.41)	(1.11-1.83)	(1.04-1.76)	(0.99 – 0.67)	(0.94-1.59)	(0.66 - 1.15)	(0.37-0.82)	(0.13-0.56)	(0.04 – 0.37)	(0.44-0.89) <sup>1</sup>	(0.50 – 1.45) <sup>1</sup>	?	?	?
<b>Change in Restrictions on Forest Practices by Stream Size</b>																		
Equivalent fixed width for Rx Medium streams <sup>2</sup>	45.0	63.0	71.9	80.8	89.7	41.3	42.9	45.1	47.0	47.5	59.4	74.7	137.4	41.3	41.3	?	?	?
Equivalent fixed width for Rx Small streams <sup>2</sup>	45.0	63.0	71.9	80.8	89.7	22.8	22.8	24.8	26.4	47.5	59.4	74.7	137.4	22.8	22.8	?	?	?
Medium Streams (additional acres/mile)	0.9	5.3	7.4	9.6	11.7	0.0	0.4	0.9	1.4	1.5	4.4	8.1	23.3	0.0	0.0	?	?	?
Small Streams (additional acres/mile)	5.4	9.7	11.9	14.1	16.2	0.0	0.0	0.5	0.9	6.0	8.9	12.6	27.8	0.0	0.0	?	?	?
<b>Change in Wood Production Values by Ownership Type (Economic Information)</b>																		
Industrial value (\$/mile) Medium streams	\$4,000	\$23,200	\$32,700	\$42,200	\$51,700	\$-	\$1,700	\$4,100	\$6,100	\$6,600	\$19,300	\$35,700	\$102,600	\$-	\$-	?	?	?
Industrial value (\$/mile) Small streams	\$23,700	\$42,900	\$52,400	\$61,900	\$71,500	\$-	\$-	\$2,100	\$3,800	\$26,400	\$39,100	\$55,500	\$122,400	\$-	\$-	?	?	?
Non-industrial value (\$/mile) Medium streams	\$5,700	\$33,400	\$47,100	\$60,800	\$74,500	\$-	\$2,500	\$5,900	\$8,800	\$9,500	\$27,900	\$51,500	\$148,000	\$-	\$-	?	?	?
Non-industrial value (\$/mile) Small streams	\$34,200	\$61,900	\$75,600	\$89,300	\$103,000	\$-	\$-	\$3,100	\$5,500	\$38,000	\$56,400	\$80,100	\$176,500	\$-	\$-	?	?	?
<b>Riparian Functions (Ecological Information)</b>																		
Large wood recruitment (%) <sup>2</sup> Medium streams	65	78	82	88	91	62	64	66	67	68	76	84	100	?	?	?	?	?
Large wood recruitment (%) <sup>2</sup> Small streams	65	78	82	88	91	40	40	43	45	68	76	84	100	?	?	?	?	?
Fish response (qualitative)																		
Decrease in % shade <sup>3</sup> Medium streams	17	10	7	5	4	18	17	16	16	16	11	7	0	?	?	?	?	?
Decrease in % shade <sup>3</sup> Small streams	17	10	7	5	4	26	26	25	24	16	11	7	0	?	?	?	?	?
Other (litter fall, root strength)																		

<sup>1</sup> The model can only estimate temperature change for the first entry (i.e., a one-sided harvest). The model cannot estimate temperature change for the second entry after the green-up period. These results only represent the temperature change for first entry.

<sup>2</sup> Expressed as horizontal distances.

<sup>3</sup> Expressed as a function of non-harvested scenario.

Brief descriptions of prescriptions (see Attachment 2 for more details)

No cut buffers – these are buffer distances, which there is no harvesting for wood production.

FPA: Forest Practices Act buffers (OAR 629-640-0100) that have a 20-foot no cut, and 50- and 70-foot riparian management areas (RMAs) for small and medium streams, respectively. Coast Range RMA basal area targets for medium and small streams are 40 and 120 ft<sup>2</sup>/1000 ft. of conifer basal area respectively. The Interior medium F RMA basal area target is 140 ft<sup>2</sup>/1000 ft.

OFIC-E: Identical to FPA except that it only applies to the Coast Range, increases the no-cut buffers for medium streams to 30 ft., and increases medium F stream basal area targets by 20 ft<sup>2</sup>/1000 ft. Additional basal area may include alder with a diameter at breast height greater than 6” and a distance of greater than 30 ft. from the stream.

AOL-B: Same as FPA but increases small and medium F stream basal area targets by 20 ft<sup>2</sup>/1000 ft., preferentially from hardwood basal area.

RFPC-A: Same as FPA but increases small and medium F stream basal area targets by 40 ft<sup>2</sup>/1000 ft., preferentially from hardwood basal area.

70/200: RMA width is set to 70 ft. Harvest may occur in the RMA to bring total conifer and hardwood basal area down to a target of 200 ft<sup>2</sup>/1000 ft. If available basal area is less than the target then no entry occurs within the RMA.

80/250: Same as 70/200 except that the RMA width is set to 80 ft. and the target basal area is set to 250 ft<sup>2</sup>/1000 ft.

170/275: Same as 70/200 except that the RMA width is set to 170 ft. and the target basal area is set to 275 ft<sup>2</sup>/1000 ft.

FMP: Buffers harvested following State Forests’ Northwest Forest Management Plan Appendix J (ODF, 2001). Stands have a 25 ft. no-entry zone, a zone between 25 and 100 ft. that may be thinned from below to achieve ecological goals in certain circumstances, and a variable retention harvest between 100 and 170 ft.

RFPC-B: Staggered entry. Harvest one side of the stream to 50’ or 70’ (small or medium F). Wait four years, and then harvest both sides to the FPA.

AOL-A: Staggered entry. One-sided FPA harvests with the other side harvested to the FPA after a five-year green-up period.

OFIC-C: Staggered entry. One-sided FPA harvests with the other side harvested to the FPA after a four-year green-up period.

AOL-C: Shift 75% of the north-side RMA basal area to the south side of the buffer. 20-ft no-cut buffers would remain.

OFIC-F: Use prescription OFIC-E, but 65% of total required basal area for both sides of the stream could be retained on the south side of the stream. 20-ft no-cut buffers would remain.

RFPC-C: Use prescription RFPC-A, but shift half of new basal area on the north bank to the south bank, and harvest the north bank to the FPA.

**References**

Oregon Department of Forestry, 2001. Northwest Oregon state forests management plan appendix J: management standards for aquatic and riparian areas. Oregon Department of Forestry, Salem, Oregon.