

## Summary of Riparian Rules for Neighboring States

When considering riparian buffer requirements in states adjacent to Oregon, it is important to note that Idaho, California, and Washington have different forest types, regulatory frameworks, and objectives for their respective rules. This attachment provides a high-level summary and comparison of the riparian management areas (RMA) and associated rules by state for fish-bearing streams. For Washington, we referred to west-side rules. We derived the information from respective rulebooks and from conversations with state officials.

### Riparian management areas

Table 1 summarizes the basis for and width of riparian management areas for Idaho, California, and Washington. Idaho has the narrowest RMA of 75 feet and no core (no-harvest) zone. Idaho has two options for configuration of inner and outer zones. California has three RMA classes with confined channels having an RMA of 100 or 150 feet while flood prone RMAs vary depending on the width of flood prone area. California has a 30-foot core no-harvest zone. Washington has ten different classes based on bank full width (BFW) and five site classes. All classes have a 50-foot core no-harvest zone. There are ten different inner zone widths and ten different outer zone widths. Washington also has an exemption for parcels of 20 contiguous acres or less for landowners with total parcel ownership of less than 80 forested acres. The minimum buffer is 29 feet and the maximum is dependent on stream width. For 5-10 feet BFW (roughly equivalent to Oregon small and some medium streams), the RMA maximum is 58 feet and for 10-75 feet BFW (roughly equivalent to Oregon medium and large streams), the RMA maximum is 86 feet.

Table 1. Riparian management areas (RMA) for Idaho, California, and Washington.

State	Basis	Classes	Width of RMA and zones in feet <sup>1</sup>			
			RMA	Core	Inner	Outer
Idaho	Fish	Class I	75	N/A	25	50
					50	25
California	Fish use and channel type	Not Anadromy zone <sup>2</sup> , confined	100	30	40	30
		Anadromy zone, confined	150	30	70	50
		Flood-prone area (FA)	150 – 200+	30	A 70-120 B End FA	End FA + 50
Washington	Bankfull width (BFW) site index, owner	< 10 feet BFW	90 - 200	50	10 - 83	30 - 67
		> 10 feet BFW	90 - 200	50	18 - 100	22 - 50
		Parcel ≤ 20 ac., owner ≤ 80 ac.	29 - 115			

<sup>1</sup> Idaho and California use slope distance, Washington uses horizontal distances

<sup>2</sup> Anadromy Zone means any planning watershed(s), where salmonids listed as threatened, endangered, or candidate under the State or Federal Endangered Species Acts, are currently present or can be restored.

## Buffer requirements within riparian management areas

### Idaho

Idaho specifies leave trees by Relative Stocking, a measure of site occupancy calculated as a ratio comparison of actual stand density to the biological maximum density for five different forest types, expressed as a percentage. The rule goal is to have less than 10 percent decrease in shade. Table 2 shows the residual stocking required in each zone by options. This rule became effective in 2015 and there has not been many harvests under the rule. Figure 1 presents a visual and descriptive depiction of the Idaho rule.

**Table 2. Idaho buffer requirements**

Option	Relative Stocking (RS)	Notes
1. "60-30 option"	Inner (0-25 feet) 60 RS Outer (25-75 feet) 30 RS	Option 1 typically has some entry into 30 RS outer zone.
2. "60-10 option"	Inner (0-50 feet) 60 RS Outer (50-75 feet) 10 RS	Harvests typically average about 60 feet hard-edged and do not enter inner zone

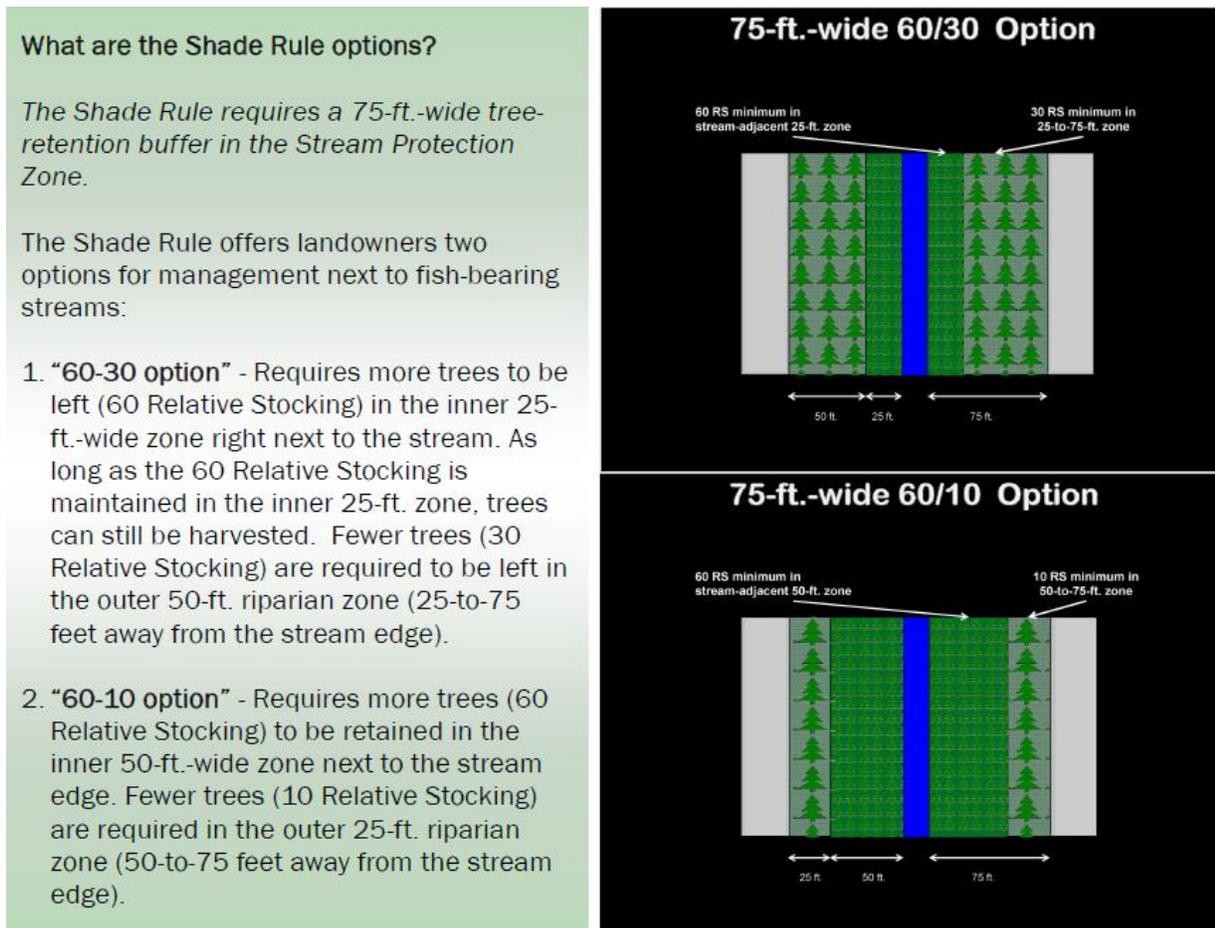


Figure 1. Description from Idaho Department of Lands' The Forest Practices Act Streamside Tree Retention Rule or "Shade Rule" fact sheet. Updated June 2014.

California

California specifies riparian prescription by zone. The core zone has a no harvest prescription. The inner zone has modified commercial thinning or singletree selection prescription that must increase the average stand diameter. The prescription must leave 70-80 percent of overstory canopy cover and leave a specified number of the largest trees (see Table 3 for detail by stream type). No sanitation or salvage is allowed in the inner zone, i.e., removal of insect attacked or diseased trees or removal of trees, which are dead, dying, or deteriorating. The outer zone has a modified commercial thinning or singletree selection prescription, with a target of retaining 50 percent of overstory canopy cover. Flood prone streams may have an additional inner zone depending on the width of the flood prone area (Figure 2 illustrates the zones for confined channels in watersheds in the coastal anadromy zone). California is only state where thinning is common in riparian management areas (occurs in both the inner and outer zones).

**Table 3. California buffer requirements**

<b>Stream Type</b>	<b>Zone, slope distance (ft.)</b>	<b>Riparian Prescription</b>
Non-Anadromy confined	Core: 0 to 30	No harvest
	Inner: 30 to 70	Retain 70% overstory canopy cover. Thin to increase average stand diameter, retain seven (7) largest trees/acre.
	Outer: 70 to 100	Retain 50% overstory canopy cover; commercial thinning or single-tree selection.
Anadromy confined	Core: 0 to 30	No harvest
	Inner: 30 to 100	Retain 80% overstory canopy cover in the Coast and Southern Districts and 70% in the Northern Forest District. Thin to increase average stand diameter, retain 13 largest trees/ acre.
	Outer <sup>1</sup> : 100 to 150	Retain 50% overstory canopy cover; commercial thinning or single-tree selection.
Flood-prone area (FA)	Core: 0 to 30	No harvest
	Inner A: 30 to 100-150	Retain 80% overstory canopy cover in the Coast and Southern Districts in anadromy zone and 70% in the other districts. Thin to increase average stand diameter, retain 13 largest trees/ acre.
	Inner B: end of A to end of FA	Retain 50% overstory canopy cover; commercial thinning or single-tree selection. Retain 13 largest trees/ acre.
	Outer <sup>1</sup> : end of FA + 50	Retain 50% overstory canopy cover; commercial thinning or single-tree selection.

<sup>1</sup> For Anadromy and Flood prone, the 50 ft. Outer Zone required only when even aged silvicultural system contiguous to riparian area.

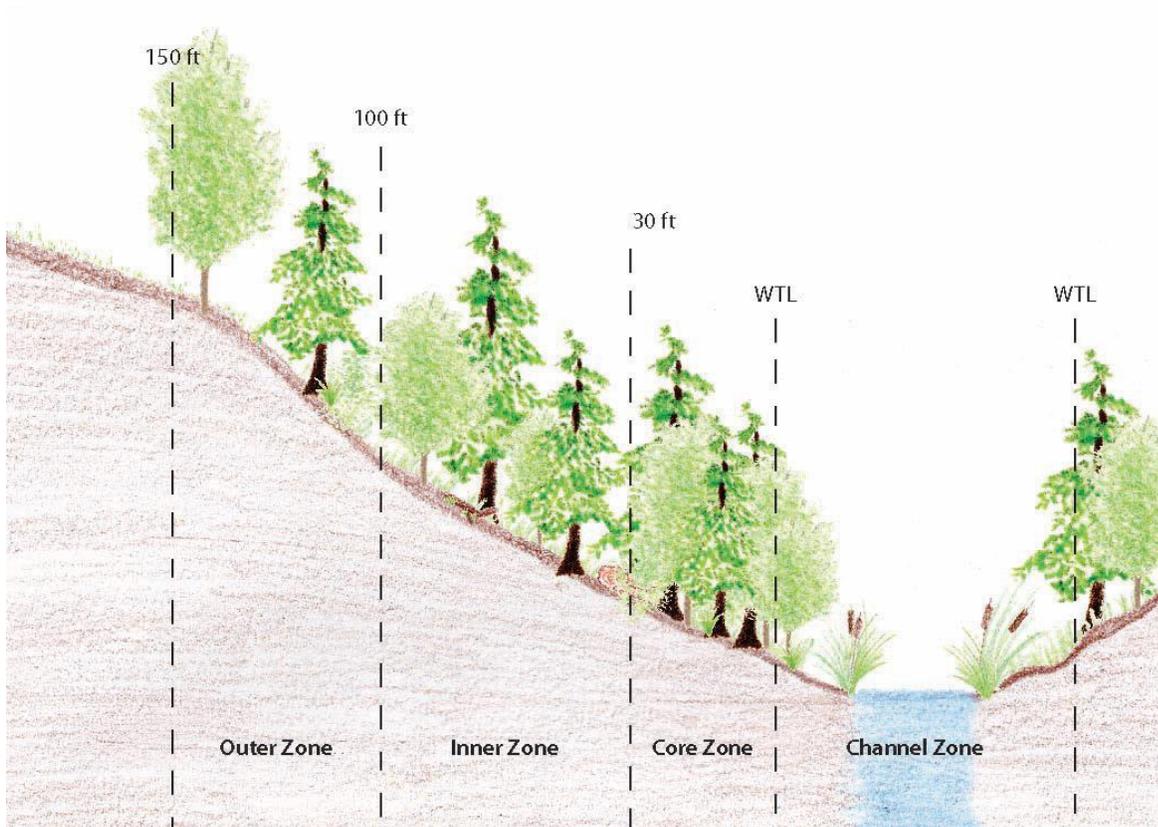


Figure 2. California riparian management zones for confined channels in watersheds in the coastal anadromy zone (not to scale). From the 2014 California Forest Practice Rules.

Washington

Washington rules are more complex because of the number of size / site classes, but they also specify riparian management by zone. The core zone has a no harvest prescription. The inner zone allows a thinning prescription if there is excess trees (basal area) compared to a stand on trajectory to reach the desired future condition of 325 sq. ft./ac. at age 140 years. The outer zone requires 20 riparian leave trees per acre (TPA) after harvest, which may be dispersed or clumped.

Discussion with Washington Department of Natural Resources indicated that approximately 50 percent of harvest units can (and do) have harvest in the inner zone. Most landowners do hard-edged cuts (leaving trees closest to water option) instead of using the thinning from below canopy option. Table 4 illustrates the leaving trees closest to water option. Essentially, the no-harvest zone expands to 80 and 100 feet depending on stream size. The remaining inner zone contains additional basal area, if needed, and the outer zone still has the 20 TPA requirement. Figure 3 illustrates this option graphically. Note that option 2 only applies to site index I, II, and III.

For those owners that cannot or choose not to harvest, the inner zone becomes a no harvest prescription and the riparian management areas simplifies to a no-harvest zone that varies by site index and stream size and an outer zone with the 20 TPA requirement, as shown in table 4. The no-harvest buffers range from 60 to 133 feet for streams <10 feet BFW and 68 to 150 feet for streams >10 feet BFW.

**Table 4. Washington buffer requirements on fish-bearing streams.**

<b>Option 2, Leaving trees closest to the water, Western Washington.</b>						
Zone, horizontal distance (ft.)						
Site Class	BFW <sup>1</sup> (ft.)	Core ext.	Inner	Outer	Riparian Prescription	
I	< 10	80	80 to 134	134 to 200	No harvest in core plus extension. Leave additional basal area, if needed, closest to core in inner zone. Leave 20 TPA in outer zone.	
II		80	80 to 114	114 to 170		
III		80	80 to 94	94 to 140		
I	> 10	100	100 to 134	134 to 200		
II		100	100 to 120	120 to 170		
<b>No inner zone management, Western Washington</b>						
Zones as horizontal distance (ft.) from edge of stream						
Site Class	BFW (ft.)	Core + Inner (no harvest)	BFW (ft.)	Core + Inner (no harvest)	Outer (RMA width)	Riparian Prescription
I	< 10	133	> 10	150	200	No harvest in core plus inner zone. Leave 20 TPA in outer zone.
II	< 10	113	> 10	128	170	
III	< 10	93	> 10	105	140	
IV	< 10	73	> 10	83	110	
V	< 10	60	> 10	68	90	
<b>Parcels under 20 acres, total forest ownership under 80 acres, Western Washington</b>						
Number of trees per 1,000 feet each side						
	BFW (ft.)	RMA (ft.)	Gravel/Cobble<10" diameter		Boulder/Bedrock	
	0-5	29	29		29	
	5-10	58	86		29	
	10-75	86	115		60	
	>75	115	58		29	

<sup>1</sup> Stream width is measured as bankfull width (BFW); for comparison, less than 10 feet would be most small and some medium ODF streams.

Small landowners, ownership less than 80 forested acres, are not required to follow current rules on parcels of 20 contiguous acres or less. They are required to follow applicable watershed analysis riparian prescriptions in effect as of January 1, 1999, or if there are no watershed analysis riparian prescriptions in effect these landowners are required to follow the riparian management zone rules shown in table 4. The RMA width and number of trees per 100 feet vary by stream size.

**LEAVE TREE REQUIREMENTS**

WESTERN WASHINGTON

**Option 2 | Leaving Trees Closest to Water**

**SF** TYPE 'S' OR 'F' WESTERN WASHINGTON

TYPES 'S' AND 'F' ARE FISH HABITAT STREAMS

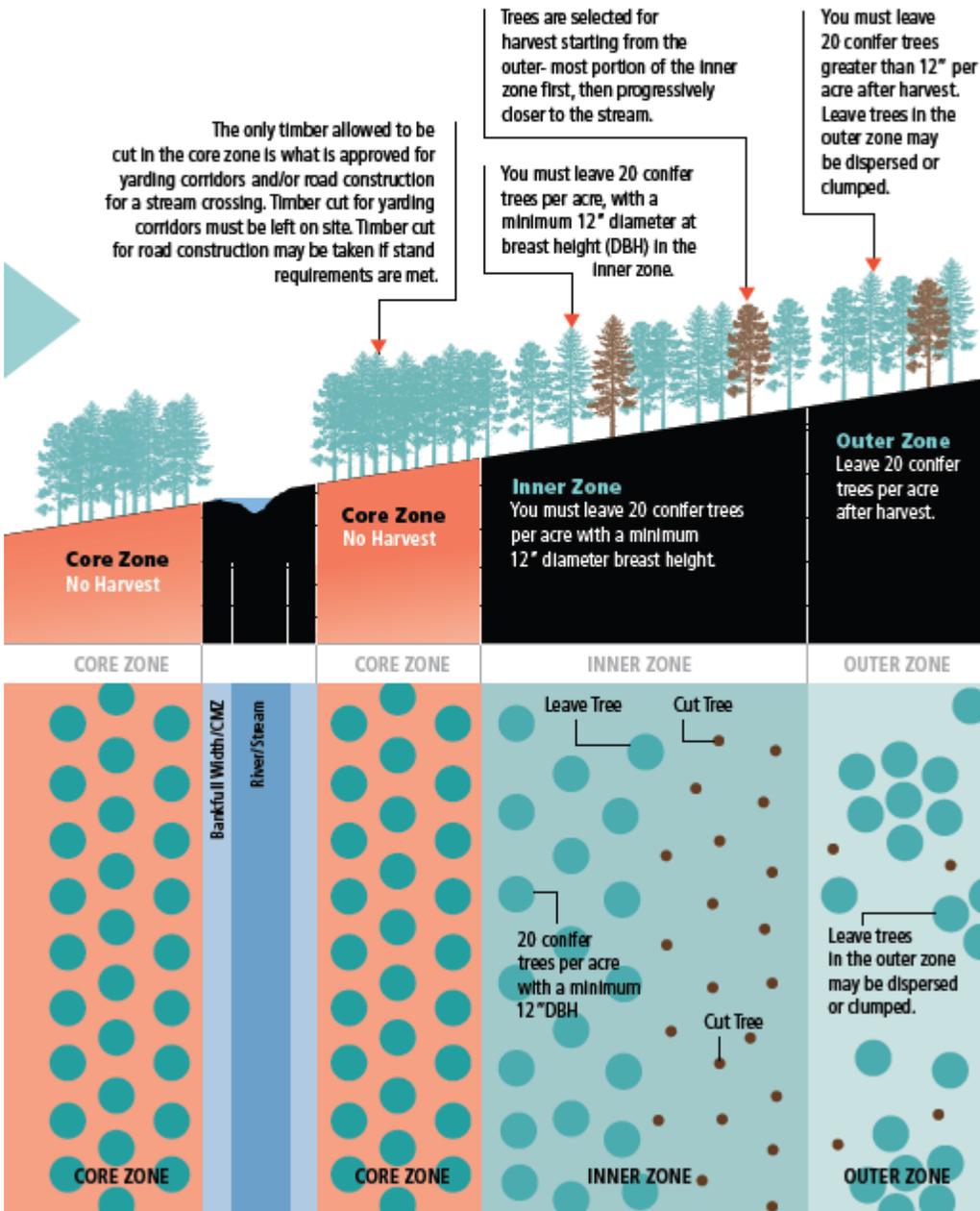


Figure 3. Illustration of Washington Option 2, leaving trees closest to the water. From the Washington State Department of Natural Resources, Forest Practices Illustrated-Timber Harvest.