

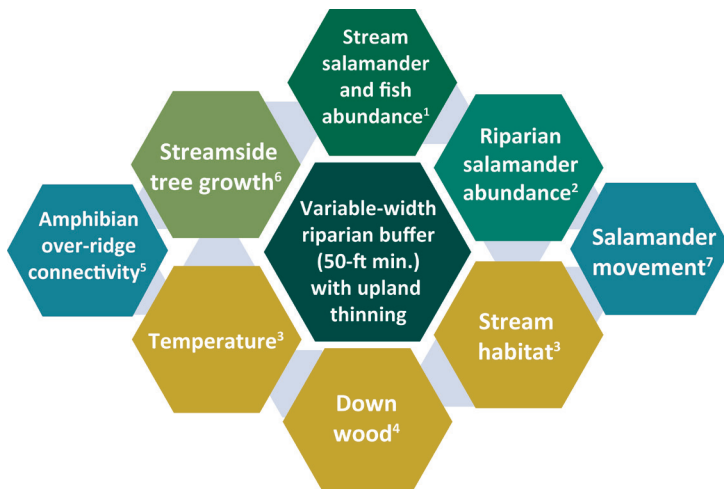
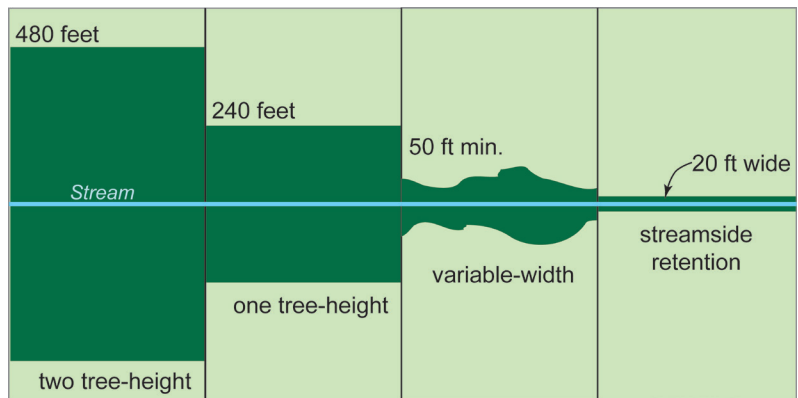
## Variable-width (50-ft min.) Stream Buffers Aid Aquatic-riparian Resources in Managed Oregon West-side Forests

### Background

The value of retaining headwater stream buffer zones is a poignant forestry issue, with current policies varying with land ownership. Science addressing buffer approaches has been emerging incrementally. Several papers from the Density Management and Riparian Buffer Study show the value of variable-width (50-ft min.) riparian buffers for west-side aquatic-riparian resources along small streams.

### Key findings

We assessed effects of alternative riparian buffer widths with upland thinning on a suite of aquatic-riparian responses. Species and habitat conditions were retained with variable-width (50-ft min.) buffers, which often extended to 75 ft.



<sup>1</sup>Olson, Leirness et al. 2014; Olson and Burton 2014

<sup>2</sup>Olson and Kluber 2014

<sup>3</sup>Leach et al. submitted; Olson and Burton in prep; Olson and Burton 2014; see also Anderson et al. 2007; Olson, Anderson et al. 2007

<sup>4</sup>Burton et al. submitted

<sup>5</sup>Olson and Burnett 2009, 2013; Emel et al. in prep.

<sup>6</sup>Ruzicka et al. 2014; Ruzicka 2015

<sup>7</sup>Kluber et al. 2008

### Management Implications

- Our research adds specificity to Aquatic Conservation Strategy objectives for headwaters.
- Our findings support thinning within Interim Riparian Reserves of the Northwest Forest Plan, with a 50-ft no-entry zone along headwater streams.
- Our treatment stream reaches were ~750 ft long, and thinning was done in two entries, to 80 trees per acre (tpa) then to 35 tpa; monitoring would be warranted if our approach were adopted in a different context, for larger areas, different overstory densities, or different forest types.
- To improve the role of riparian areas for functions such as climate change buffering or over-ridge connectivity of terrestrial species, consider upland weighted-retention areas.

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