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Quantifying Fish Responses to Forestry—Lessons from the Trask Watershed Study

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Presentation Abstract

We describe demographic processes and species interactions that influence Coastal Cutthroat Trout (*Oncorhynchus clarkii clarkii*) in small streams that are part of an effort designed to evaluate forest harvest impacts in the Trask Watershed, an industrial forest located in northwest Oregon, USA. Spatial variation in recruitment, individual growth, survival, and movement were quantified during summer low flows for four years (2007–2010). The phenology of recruitment varied substantially among sites and years. Movement during summer was limited, and varied inconsistently among sites. Individual growth and survival showed consistent size-related patterns, with variability in growth showing more consistent differences among sites in different years. Processes driving these patterns are challenging to identify, but companion studies of instream cover selection and seasonal diets of trout and other fishes suggest strong roles for predators, species interactions, and seasonal food limitations. Based on these results, we find that a process-based understanding of forestry impacts may prove more useful than traditional trend-based monitoring and impact assessments.

Keywords: forest harvest, cutthroat trout, recruitment, cover selection, food availability.

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