

# *Light, Nutrients and Macroinvertebrates*

## **Effect of experimental riparian buffers on macroinvertebrate export from non-fish-bearing streams**

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Macroinvertebrates exported from headwater streams are an important food source for downstream fish. Timber harvest may influence macroinvertebrate export through changes in organic matter inputs and primary production. We assessed the response of macroinvertebrate export from non-fish-bearing streams treated with the current Washington State Forest Practices buffer (FP), a more extensive buffer (100 percent), no buffer (zero percent), or no harvest (reference). We collected macroinvertebrates using drift nets every six weeks and quantified macroinvertebrate export as numbers and biomass per day. Observed changes in export of parasites, scrapers, and Dixidae (Diptera) in one or more of the buffer treatments were also observed in the reference sites and were not consistent across treatments. Collector-gatherers comprised a large proportion of individuals exported, and export in biomass per day increased in the FP and zero percent treatments. Although we observed some changes after harvest, there were no major reductions in macroinvertebrate export and no major shifts in functional feeding groups associated with the three buffer treatments relative to the unharvested references.



We sampled macroinvertebrate export at the downstream end of the non-fish-bearing stream basins every six weeks over a 24-hour period using a 250-micron drift net.