

Streamflow, Sediment and Organic Matter

Discharge and suspended sediment response to variable length riparian buffers in clearcut basins

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We analyzed water discharge and suspended sediment export following timber harvest in six non-fish watersheds using three riparian buffer scenarios. The buffer treatments included current Washington State Forest Practices requirements, buffering along 100% of the perennial stream network, and no buffer. Water discharge increased for all treatments following harvest, but magnitude varied by season, amount of harvest, and buffer scenario. In general, the largest increases in discharge were observed during moderate storm events in sites with no buffer. Suspended sediment export was greater during harvest or post-harvest periods in four of the six buffer treatment sites but was of similar magnitude to one of the two reference sites. Due to the limited number of monitoring sites and sediment-generating storm events, we were unable to separate treatment effects from natural variability to draw strong conclusions about the relative effectiveness of the buffer treatments on sediment supply or export.



Measuring discharge and suspended sediment at the outlet of a headwater basin.