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# Predicting bedload transport of mountain streams: the case of the Esconavette Torrent (Southern French Prealps)

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Bedload transport of a small gravel-bed stream, the Esconavette Torrent (Southern French Prealps), was monitored between 1997 and 2002 by means of scour chains and painted tracers. Event-based bedload yields were obtained for 35 flow events. The chain and tracer approach was validated by a comparison with data from a dredged slot. The cumulative bedload yield of 4 flow events measured in the slot and by the chain and tracer approach was respectively 174 and 153 $m^3$. The consistency between those two field-based estimates confirms that the deployment of scour chains and tracers in gravel bed rivers have the potential to provide a robust assessment of bedload transport. A mean annual bedload yield of 67 $m^3$ $km^{-2}$ was obtained for the 1997-2002 period. A test of bedload equations adapted for steep slopes (MPM, Rickenmann 2001, Recking 2006, Barry et al. 2004) is also proposed.