

## **Coarse sediment transport observations from St. Louis Creek watershed, Fraser Experimental Forest, Fraser, CO**

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**Abstract.** Since the early 1990's, U.S. Forest Service researchers have made hundreds of bedload measurements in steep, coarse-grained channels in the St. Louis Creek watershed on the Fraser Experimental Forest (FEF). These sites range in watershed area from about 5 to 50 km<sup>2</sup> and have measured slopes ranging from 2 to 5%. The purpose of these investigations was multifold, but the studies initiated primarily from the need to understand channel process for the purpose of developing instream flow claims. The results indicate that similar rates of coarse sediment transport per unit watershed area exist at the sites at FEF and that a relatively narrow range of flow moves most of the sediment in these coarse grained systems. Other longer-term efforts at FEF (since the early 1960's) have produced volumetric estimates of annual sediment loads for a number of small watersheds. Data of this nature not only provide an overall measure of annual export but have been useful for validating bedload rating relationships obtained from other devices for sampling coarse sediment. In the future, sites like the sediment accumulation ponds at FEF can be used for additional testing of both physical and surrogate (or remote) technologies for monitoring coarse sediment transport.