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# Up-scaling sediment connectivity: a PESERA application

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Detailed flume work and field observations indicate that the efficiency of a vegetated buffer strip is achieved by breaking the continuity or connectivity of the bed-load. Without continuous bed material sediment discharge is dependent on material in suspension. With total transport rates reduced due to the existing vegetation matrix and regrowth the discontinuity in bed-load and efficiency can be maintained for a given design storm.

The hydraulics and sediment dynamics of flow though vegetation are reviewed to consider the up-scaling of the concept within the PESERA model. This is achieved by considering the appropriate parameterization of the erodibility parameter for the varying vegetated fraction (observed or modeled) and updating the dynamic vegetation cover, to account for deposition and subsequent connectivity.