

Turbidity-threshold Sampling in the Freshwater Watershed

Patrick Donovan, Graduate Research Assistant, Department of Forestry and Watershed Management, Humboldt State University, 1 Harpst Street, Arcata, CA 95521; Rand Eads, Hydrologic Instrumentation Specialist, Redwood Sciences Laboratory, Pacific Southwest Research Station, USDA Forest Service, 1700 Bayview Drive, Arcata, CA 95521; C. Hobart Perry, Assistant Professor, Department of Forestry and Watershed Management, Humboldt State University, 1 Harpst Street, Arcata, CA 95521, Tel: (707) 826-5622, Fax: (707) 826-5634, Email chp1@humboldt.edu

Our primary objective is to relate estimated suspended sediment loads to land use and geology. Turbidity-threshold sampling technology developed by the USDA Forest Service Redwood Sciences Laboratory is currently being used to monitor streamflow and suspended sediment transport at two strategic locations in the catchment. An additional station has been funded and will be installed before the next water year. The stations collect continuous information on turbidity with in-stream turbidimeters; pressure transducers are used to measure stage. The turbidity-suspended sediment relation varies throughout the water year, and the physical samples are used to revise both storm-based and annual estimates of suspended sediment loads. The collected measurements and samples provide information essential to both the development of appropriate TMDLs and the adaptive management of impaired wildland watersheds.