



Sediment-associated metals in streams draining agriculture, forestry and mining in the Quesnel River Basin, British Columbia, Canada

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It is expected that land use activities will influence the quality of water and sediment in rivers and streams draining such land. The impact of various land use activities on the quality of fine-grained sediment was investigated in the Quesnel River Basin (ca. 12,000 km²) in British Columbia, Canada. Samples of fine-grained sediment were collected monthly during the snow-free season in 2008 using time-integrated samplers at replicate sites representative of forestry, mining, and agricultural activities in the basin. Samples were also collected from replicate control sites that had undergone limited or no disturbance in recent years, and also from the main stem of the Quesnel River. Generally, metal and nutrient concentrations for “impacted” sites were greater than for control sites. Concentrations of As (mining sites), Cu (mining and forestry sites), and Zn (forestry sites) were close to or exceeded upper SQG thresholds, while Se concentrations for mining sites were elevated and within the range cited for contaminated environments.