Name: Sean Seal

Title: Assessing Benthic Macroinvertebrate Community Responses to Post-Wildfire Hillslope Restoration Treatments in the Deadman River Watershed.

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Abstract:

In 2021 the Sparks Lake wildfire burned approximately 900 km^2 of land, situated predominantly within the Deadman River watershed near Savona, BC. This wildfire has had profound impacts on hillslopes and the physical stream-channel habitat within the watershed. The streambed in this area plays an important ecological role as it serves as habitat for benthic macroinvertebrates, the primary food source of juvenile salmonids and other freshwater fishes within the watershed. Given their diverse ecological roles and life histories, changes in physical habitat can have significant and immediate influence on the abundance and composition of the benthic invertebrate community. Consequently, these invertebrates constitute a critical ecological linkage between terrestrial landscape-scale processes and freshwater fishes, especially juvenile life stages of threatened Pacific salmon stocks which rely on the streams within the watershed for early rearing habitat. This research project has two main objectives. Firstly, it aims to assess changes in the relative abundance and composition of the benthic macroinvertebrate community resulting from restoration treatments applied to hillslopes adjacent to wildfire-impacted drainages. Secondly, the study will examine the impacts of seasonal turbidity patterns on drift behavior within the benthic community, as the drift phase is when benthic invertebrates are most susceptible to predation by visually-oriented juvenile salmonids. These assessments will involve taxonomic analysis of macroinvertebrates captured in benthic and drift samples, supplemented by length-weight regression to estimate overall biomass.