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Title: The Effectiveness of Various Hillslope Erosion Mitigation Treatments in Dry-Belt Fir Ecosystems Within the Interior of British Columbia

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The Deadman River Watershed experienced wildfire over approximately 51% of the watershed during the 2021 Sparks Lake Wildfire (K21001) and a significant portion (~22%) was also burned in 2017 Elephant Hill Wildfire (K20637). The Deadman River is a vital source of water for the Skeetchestn community, and the wildfire damage poses a risk to infrastructure from flooding and water quality from sediment erosion. The river system also has many lakes used for recreation in the mid-valley and is an important spawning stream for Chinook *(Oncorhynchus tshawytscha)*, Coho *(O. kisutch)*, and Pink Salmon *(O. gorbuscha)*, as well as endangered Steelhead Trout *(O.mykiss).* This research aims to test the effectiveness of various hillslope erosion mitigation methods implemented through Skeetchestn's *Tsecmenúl̓ecwem-kt* (We Repair the Land) – Deadman Recovery & Resiliency Initiative. These treatments mulching, seeding, horizontal log barriers, or a combination of these treatments and will test their effectiveness using rainfall simulations. By determining the most effective form of sediment erosion mitigation, Skeetchestn, as well as other communities effected by wildfire, implement these methods on large scale landscape forms to see broadscale effects and ultimately reduce sediment reaching sensitive streams.