
MACROINVERTEBRATES AS INDICATORS OF WATER QUALITY IN BLACKTAIL CREEK

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Blacktail Creek, located in Butte, Montana, has a long history of human-caused contamination. Mine waste has polluted parts of its streambed since the late 1800's, causing extensive loss of vegetative diversity along the creek, as well as a loss of aquatic life. The Blacktail Berm is an area currently estimated to contain 35,000 cubic yards of toxic mine tailings. The future removal of remaining mine tailings in Butte is not a certainty at this point, but planning removal and restoration of these contaminated areas has been discussed extensively in recent years. In order to help provide baseline data prior to future restoration efforts, this study was conducted to survey the aquatic macroinvertebrate populations in Blacktail Creek. Macroinvertebrates are often used as part of an assessment of stream health, particularly in relation to restoration work. The presence and abundance of specific aquatic macroinvertebrates can be used to get an idea of the water quality of the stream. Macroinvertebrate samples were collected at five locations along Blacktail Creek from September 13, 2016 through September 17, 2016. Along with stream conductivity, temperature, and dissolved oxygen, an Ephemeroptera, Plecoptera, and Trichoptera (EPT) index assessment was completed. The EPT index used for this assessment provided good, fair, or poor water quality ratings for Blacktail Creek based on the ratio of EPT macroinvertebrates to total macroinvertebrates in a single sample. The results will provide data useful in long-term monitoring of these macroinvertebrate populations before, during, and after the cleanup of Blacktail Creek.