The Effect of Environmental Contaminants on the Biodiversity of Carpenter Creek

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This study examined potential environmental factors leading to the depletion of biodiversity of organisms due to a mine tailings spill. Collections of water, soil, and macroinvertebrates were taken from Carpenter Creek out of Neihart, Montana. It was hypothesized that an increase in dissolved minerals would be a contributing factor to the depletion of trout and macroinvertebrate biodiversity. If trends in dissolved minerals correlate with the depletion of the species richness, action can be taken to eradicate the concentrations of that mineral. Soil was sampled from each site, approximately 2 meters from the stream and tested for pH. Plant populations were noted at each site and macroinvertebrates were collected from each site using a kick sieve. They were identified and recorded. Water was tested using a spectrometer which was used to find the concentrations of lead, zinc, and copper. An increased concentration of lead was observed downstream from the mine tailings. After running statistics on the lead concentrations it was found that the increase from sites above the tailings to below were very statistically significant. This also corresponded to a decrease in macroinvertebrate biodiversity and an absence of fish.

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