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*Kerber Creek Restoration: Using Phytoremediation to Rebuild a Watershed*

In this study I wanted to know if phytoremediation techniques would improve and help to reestablish the riparian corridor. To look at this I went back to the seven original sites that were looked at by the CDPHE and took water sample and tested them on the ICP MS. I found that of the analytes tested Manganese, Arsenic, Selenium, Cadmium, Zinc, and Uranium were all still found in the water but in much lower quantities except for uranium which did increase in sites along the stream. I also detected other analytes as part of my study. They were, cobalt, molybdenum, nickel, barium, antimony, tin, chromium, and vanadium, though not in amounts as to be deemed significant for natural waters as defined by the Colorado Department of Public Health and Environment (CDPHE). I tested for pH and conductivity (TDS). The pH has dropped. It previously ranged from an average of 7.24 and has lowered to average of 6 for all samples tested. The conductivity levels have improved in all sites along the Kerber Creek corridor where previously they ranged from 82 to 380 ppb they now range from 131 to 191 ppb. Finally, I found that at sites 3,4,5, and 6 there were some numbers of macro-invertebrates. The species, Ephemeroptera (mayflies) and Plecoptera (stoneflies), were both found in their larval stage. My study shows that my hypothesis is correct; the clean-up efforts that have taken place within the Kerber Creek watershed have made a substantial improvement to the water and riparian quality.