Metal Menace! An Analysis of Water Quality and Biota in Birds Creek

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This study examines water quality and biota in Birds Creek to determine if levels decrease as the stream flows past a solid waste transfer station. Data collection Site #1 was 1600 meters upstream from the solid waste transfer station. Site #2 was beside the solid waste transfer station. Site #3 was 1600 meters downstream from Site #2. On seventeen dates water samples were collected at each site for chemical tests to examine pH, dissolved oxygen, heavy metal concentration, and coliform levels. The highest mean pH was a level of 7.11 at Site #1. The lowest mean pH, 6.52, was found at Site #2. A biotic inventory was also conducted at each site during each visit. Using guidelines established by the Save Our Streams Organization, a Stream Index Value was calculated for each site. Site #1 yielded a Stream Index Value of 161. Site #2 had a value of only 68, and Site #3 had a value of 98. Coliform tests showed that every site was in violation, based on guidelines from the Environmental Protection Agency. Levels at Site #2 exceeded the limit by more than three times. Heavy metal concentrations were especially high at Site #2 and #3. Laboratory analysis supported that data. Data analysis suggests that water quality is best at Site #1 and decreases as the stream flows past the solid waste transfer station.