

AMELIA SEBOK, MARK FLOOD, and KRISTY HENSON. Department of Natural Sciences. Fairmont State University, Fairmont, WV 26554. Determining the Effects of Animal Decomposition on Soil Microbes.

When animals die and decompose, they undergo various taphonomic stages eventually breaking down and becoming one with the earth again. Factors that affect decomposition have been studied but there is very little literature on the effects of animal decomposition on soil microbial communities. In this project, we studied the changes in soil microbial activity at sites of animal decomposition during various taphonomic stages. Soil microbial activity was calculated using Biolog 96-well microplates, incubated at 30°C, with readings at 0, 24, and 72 hours. Preliminary tests were conducted at a known gravesite where a carcass decomposed last spring. Soil samples were collected from the head, abdominopelvic region, and an off-site control 2 meters away from the grave. Initially, the soil samples underwent three testing methods. Samples were tested with fresh, frozen, and dried soil. Fresh soil yielded the highest microbial activity followed by the frozen soil; dried soil did not yield any microbial activity. Preliminary results of the fresh soil showed a high level of microbial activity at the one-year-old gravesite compared to the off-site control. The percent functional diversity at 72 hours, for the fresh soil samples were as follows: Head- 67.7%, Abdominopelvic- 58.1%, and the off-site control- 54.8%. Future research includes testing six fresh animal specimens at one-week intervals.