Investigating the Effects of Groundwater Plumes OU2 and OU3 on the Biodiversity and Soil Health of Bethpage, NY

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Abstract

In the mid-1900s, military industrial plants were established in Bethpage. Subsequent years of unsafe chemical handling led to toxins seeping into the ground. The contaminated soil and water in Bethpage created two major dangerous groundwater plumes. Clean-up efforts were undertaken, but the hazardous chemicals can still be detected today. In the present study, we examined the soil health and biodiversity of a contaminated area compared to an unaffected area. We assessed for biodiversity by collecting insect samples and using DNA analysis techniques. It was found that biodiversity in both areas were similar as shown by phylogenetic trees. This indicates that cleanup efforts have been largely effective at establishing a normal level of biodiversity, despite the area being devastated by industrial waste in the past.