

Macroinvertebrate Diversity as a Water Quality Indicator in East Palestine.

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On February 3rd, 2023, a Norfolk Southern freight train derailed in East Palestine, Ohio, about a quarter mile west of the Ohio-Pennsylvania state line. According to the Ohio Environmental Protection Agency (EPA) about 20 of the cars effected by the derailment contained hazardous materials including vinyl chloride, ethylene glycol, ethylhexyl acrylate, butyl acrylate and isobutylene. Some of these cars caught fire, while others spilled into a ditch that empties into Sulfur Run. Sulfur Run joins Leslie Run, which empties into the Ohio River. This paper seeks to analyze field samples taken from both Leslie and Sulfur Run to determine current macroinvertebrate diversity and water quality. Furthermore, it will compare current findings with studies pre-derailment to determine if there has been any potential impact on the health of the streams as a result of the spill. Sampling was performed based on SERAS standard operating procedures (SOP) 2054 for benthic macroinvertebrate sampling using vSURBER net procedure.

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