

HALEY MILLER, Department of Natural Science and Mathematics, West Liberty University, West Liberty, WV, 26074 and JAMES WOOD, Department of Natural Science and Mathematics, West Liberty University, West Liberty, WV, 26074. Analyzing and observing trends in water chemistry data of the Upper Ohio River watershed.

The Upper Ohio River watershed has been a major industrial region since the late 1800s. The historical impacts have resulted in poor water quality in the tributaries to the Ohio River. Today, many of the tributaries are used for recreational purposes and the Ohio River is used for municipal drinking water. Public health concerns provided motivation for increased monitoring of chemical components in the water. To improve the local water quality, water chemistry of the tributaries needs to be investigated to identify trends, primary stressors, and longitudinal changes in water quality. Since February of 2018, 321 samples have been taken in the Upper Ohio River watershed recording conductivity, dissolved oxygen, pH, and water/ air temperature. Conductivity at the mouth of the tributaries, Short Creek (mean = 856.3, SE = 100.0) and Wheeling Creek (mean = 409.3, SE = 14.9), have been consistently higher than the Ohio River mainstem (mean = 283.2, SE = 8.9). The mean conductivity for Short Creek increased longitudinally towards the mouth ($R^2 = 0.4$). Whereas, the mean conductivity for Wheeling Creek remained fairly constant between upstream and downstream sites ($R^2 = 0.1$). Though the mean conductivity of the Ohio River is lower than its tributaries, there is concern that the poor water quality of Short Creek and Wheeling Creek may be detrimental the Ohio River's health.