

GARRETT W. HOOVER, Dept of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV, 26074, and JAMES WOOD, Dept of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV 26074. An ecological assessment of six major streams in West Virginia's Northern Panhandle.

The Northern Panhandle is a culturally distinct, historically foundational region of West Virginia. Lying centrally within the Allegheny Plateau, its terrain is characterized by razorback ridges and steep, winding valleys, producing a dendritic stream pattern that drains westward into the Ohio River. This high-density stream network is nested within the urban centers of the Upper Ohio Valley; coupled with the region's intensive coal, oil and gas resource extraction, surface waters in the Northern Panhandle are at an elevated risk of degradation. A paucity of biological water quality assessment has been conducted for streams in the Northern Panhandle, leaving our understanding of current impairments poorly understood, and our ability to evaluate restoration opportunities uncertain. We propose a comprehensive ecological assessment of six major streams in West Virginia's Northern Panhandle. Tomlinson Run and Kings Creek each comprise HUC-12 watersheds, have less-developed catchments, and are more highly recreated. Cross Creek, Buffalo Creek, Wheeling Creek and Fish Creek each comprise HUC-10 watersheds, and have varying levels of development within their catchments. The effects of land use on watersheds occur across multiple scales (physical, chemical and biological), so the primary drivers of change are often difficult to disentangle. We will analyze water chemistry variables and multiple parameters of macroinvertebrate community data (diversity, biomass and functional feeding groups) to parse out these drivers. Our goals are to determine the ecological health of these streams and better understand the effects of land use on stream ecosystems in the Northern Panhandle.