

Analysis of Coal Production, Severance Tax Revenues, and Water Infrastructure Relationships in West Virginia¹

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Abstract: Central Appalachia is often simultaneously characterized by its richness in natural resources against a backdrop of relatively poor socio-economic indicators. Coal mining, in particular, has traditionally played an important role in the economies of states like West Virginia, but strong reliance on the mining sector has often been blamed for boom-and-bust cycles in rural mining localities. Among the many needs and challenges in these areas is reliable access to potable water, which necessitates reliable infrastructure including system operations, maintenance, and modernization. Coal severance tax programs, such as the Coal County Reallocation Severance Tax Fund, have been established to provide revenues for these investments, however, it is unclear what impact these have ultimately had on water access and quality. Here, we examine several publicly available datasets to explore relationships between coal production, severance tax revenues, water infrastructure and system investments, and Safe Drinking Water Act (SDWA) violations in West Virginia counties. Coal production data for West Virginia was obtained via the Mine Safety and Health Administration (MSHA) database, SDWA violation data for West Virginia water systems was obtained via the Environmental Protection Agency's (EPA) Safe Drinking Water Information System (SDWIS), and coal severance tax data was obtained via the West Virginia State Treasurer's Office. Data was cleaned using Microsoft Access and statistical analysis was performed using R. This study is novel in that it fosters a better understanding of indirect effects of mining on potable water infrastructure in West Virginia. Insights might be valuable in efforts improve water access and quality to residents of both West Virginia and other mining communities.

Additional Key Words: Safe Drinking Water Act (SDWA), coal severance tax, water quality, boom-and-bust cycles.

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