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Since 2019, the Piney Creek Watershed Association has monitored water quality in Piney Creek (Beckley, WV), a forested tributary of the Lower New River Watershed that drains into the New River Gorge National Park and Preserve and is vulnerable to multiple contamination sources. Monitoring has primarily relied on culture-based assays to measure coliform bacteria. While these tests are effective indicators of fecal contamination, they cannot determine whether contamination originates from human, agricultural, or wildlife sources. Identifying the origin of fecal inputs is important for guiding watershed management strategies and protecting downstream recreational and environmental resources. To complement existing monitoring efforts, we incorporated molecular approaches to better identify contamination sources. Environmental DNA (eDNA) was collected from 1 L of filtered creek water, followed by DNA extraction using a soil/fecal DNA extraction kit. DNA extracted from two locations sampled in August 2025 was analyzed using endpoint PCR targeting HF183 and crASS064, two widely used human-associated microbial source tracking markers derived from *Bacteroides* and crAssphage. Amplification bands for the crAssphage marker were detected in both August samples, suggesting a human-associated source. These assays are currently being optimized for quantitative PCR (qPCR) to enable more sensitive detection and quantification. Preliminary observations also suggest a potential spatio-temporal pattern in marker detection, which is being investigated through additional sampling campaigns conducted in November 2025 and March 2026. Screening has also detected tetracycline resistance genes *tetB* and *tetM* highlighting the need to track both fecal markers and ARGs when assessing water quality.