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Tioga River restoration: a tale of active mine drainage treatment and consumptive use mitigation

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Coal was discovered in the Tioga River Watershed in 1792 and was mined significant during the 19th and 20th centuries, particularly around the village of Morris Run and the borough of Blossburg in Pennsylvania. The pollution impacts from this legacy mining stems mainly from six deep mine discharges that impact the Tioga River tributaries of Fall Brook, Morris Run, Coal Creek, and Bear Creek. Due to the adverse quality, high flows, and the compact area where the discharges are located, one centrally located active treatment plant was always the best avenue for treatment, but construction costs of this large plant were always the limiting factor. However, with the addition of funds entering from the Abandoned Mine Land Economic Revitalization (AMLER) Program and the Infrastructure Investment and Jobs Act, those construction cost limitations of a large active plant were negated. Consequently, the Susquehanna River Basin Commission (SRBC) was awarded a 2019 AMLER Grant for the design of an active plant that, when operating, will restore over 20-miles of the Tioga River, the Tioga section of the Army Corp of Engineers Tioga-Hammond Lake, and could offer nearly a billion-gallons of downstream consumptive use mitigation. In 2022, SRBC awarded a nearly \$1.5 million contract to Kleinfelder Inc. for the design of the plant that will treat up to 15-MGD in split dual treatment trains each capable of treating 7.5-MGD. This presentation will describe the complexities of this centralized plant, particularly dealing with the capture and conveyance of each discharge, and the redundancy designed to ensure that high flows can be treated during significant precipitation events.

Keywords: mine drainage treatment, stream restoration, consumptive use mitigation