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CROSSTOWN, W.Va. – The latest success story from the West Virginia Department of Environmental Protection's Office of Abandoned Mine Lands and Reclamation (AML) involves an Eastern Panhandle stream severely impacted by acid mine drainage (AMD) from several nearby pre-law mines. Pre-law mines refer to those operated prior to passage of the Surface Mining Control and Reclamation Act (SMCRA) of 1977.

A 15-mile stretch of Abram Creek, a tributary of the North Branch of the Potomac that runs through Grant and Mineral counties, has been undergoing AMD treatment since July 2010.

A recent survey AML conducted at three sample locations in the creek showed a significant boom in the fish community since those same locations were sampled in 2009, prior to the start of treatment. A total of 701 fish was collected this past August, compared to just 79 six years ago. That's an increase of nearly 800 percent. The number of fish species collected grew from eight to 13. Included among the newly identified species were a total of four brook trout, which is a very sensitive fish.

"Brook trout don't normally do well in polluted waters," said AML Chief Rob Rice. "So the fact that we are now seeing this fish in Abram Creek tells us that what we are doing is working."

The treatment of Abram Creek involves five dosing sites. At two of these sites, piles of limestone sand hauled by dump trucks are placed along the stream bank one to three times a year and allowed to gradually erode into the stream. This limestone sand is less potent than other treatment options, and therefore doesn't pose a risk to stream health if a great deal of it is carried into the water – say in a flooding event. The other three locations have in-stream dosers, from which pebble quicklime – calcium oxide pellets that are each about the size of a Dippin Dots ice cream dot – are continually released into the water via a water wheel and auger system.

The initial construction costs for the Abram Creek project totaled nearly \$845,000 and the average annual operational cost is about \$42,500. This project, along with five other current AMD treatment projects, is paid for with interest accrued from the agency's AMD Set-Aside Fund. Up to 30 percent of AML's annual federal grant money is "set aside," hence the name of the fund, for perpetual mine water treatment and is invested by the West Virginia Investment Management Board. The principal in the fund is left intact so that treatment can continue indefinitely in order to keep the streams from again being negatively impacted by mine drainage.

"Since our first AMD treatment project began, on a nine-mile stretch of the Blackwater River in the mid-1990s, more than 100 miles of West Virginia streams have been revived," said Rice. "In fact, that stretch of Blackwater River is now considered one of the best trout fishing areas in the state."

AML's other active AMD treatment projects involve stretches of Middle Fork River in Randolph, Barbour and Upshur counties; Three Fork Creek in Preston and Taylor counties; Morris Creek in Kanawha and

Fayette counties; and Laurel Run of Snowy Creek in Preston County.

"The work we do treating acid mine drainage is among the most environmentally beneficial work conducted in West Virginia," Rice said. "Without treatment, these streams would support little to no aquatic life. We are literally bringing the environment back to life."

AML was created in 1981 to protect public health, safety and property from past coal mining practices and to enhance the environment through reclamation and restoration of land and water resources. In addition to acid mine drainage treatment, the office mitigates hazards such as abandoned mining-related structures, highwalls, open and collapsed mine portals, coal refuse piles, underground mine fires, surface and underground impoundments, landslides, subsidence and uncontrolled mine drainage.

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