

OPPORTUNITIES FOR FURTHER WORK and RESEARCH

Restoring Mine-Impaired Watersheds: Experiences, Lessons,
and Next Steps

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AML/AMD Long-standing Issues

Funds were woefully inadequate to address 200+ years of unregulated coal mining:

- Hundreds of thousands of acres of land destroyed.
- Tens of thousands of miles of streams polluted.

Federal SMCRA severely limited when states could use funds to address AMD pollution.

The science of AMD treatment has largely stagnated.

AML/AMD Long-standing Issues (cont.)

- No scientific progress or research to figure out how to abate/stop the processes that create AMD.
- Limited funds to build AMD treatment systems/clean water infrastructure.
- **No designated funding for operation, maintenance, & rehabilitation (OM&R) of systems built by NGOs and local government.**

Pennsylvania Examples of AML PTS



Blackleggs Creek Watershed



Monastery Run – St. Vincent



SRI – Harbison Walker II



AMD & ART

333 systems statewide:
280 citizen-built, and
53 state-built.

Even More AML/AMD Long-standing Issues

- No tracking inventory system, uniform or otherwise. DataShed available in PA.
- Most humans are change adverse, unwilling to adopt the new.
- Reforestation of AML is not a priority. The best technology, Forest Reclamation Approach, is rarely used by AML Programs.

Still More AML/AMD Long-standing Issues

Congress and states failed to recognize clean water and productive land are infrastructure, even though they are the **ultimate infrastructure**.

Without clean water and productive land, you have nothing.

Nothing for humans.

Nothing for wildlife.

Nothing for the environment.

AML/AMD Long-standing Issues (yes, more)

- We do not have objective standards for AMD treatment systems – should at least be best achievable technology for the specific discharge with quantifiable water quality standards. These standards should be included in design/construction contracts.
- Insufficient funds to update AML inventories.

(There are even more of them but I'm going to stop now.)

President Biden's Bipartisan Infrastructure Law (BIL) Accomplishments

- For the first time in history Congress has recognized clean water and productive land to be infrastructure.
- Largest investment in reclamation of AML and AMD in history. More investment over the next 15 years than occurred in previous 55 years.
- States are hiring staff in order to process more AML and AMD construction.

BIL Accomplishments (cont.)

- Does not prevent states from using \$ to build, operate, and maintain AMD treatment facilities. Secretary Haaland determined BIL \$ can be used to build, operate, maintain and rehabilitate AMD treatment facilities.
- Allows states to use the \$ for AML emergencies at a time when emergencies have increased about 30%/year.

BIL Accomplishments (cont.)

- Allows states to issue a single contract to reclaim a watershed or region in order to gain economies of scale – this could be done for the more than 330 AMD PTSs in PA.
- Encourages hiring of current and former coal miners to reclaim AML/AMD.
- Specifies funds to update AML inventories.

BIL Accomplishments (*cont.*)

- Provides for payment of prevailing wages, which means more income for communities that have been economically disadvantaged for more than 50 years.
- Provides a portion of the \$11B for Inspector General, Dept. of the Interior, to oversee all use of the BIL AML \$ to prevent waste, fraud, and abuse.

REMEMBER:

You all have a continuing duty to prevent waste, fraud, and abuse. If you see questionable activity, protect your reputation and that of the AML Program and call the IG.

202-208-5445

BIL Shortcoming

BIL does not give states the option to set aside up to 30% of the annual BIL AML grant to pay for future AMD treatment OM&R costs.

What You Can Do

Senator Bob Casey drafted and introduced the STREAM Act. Reps. Matt Cartwright (PA) & David McKinley (WV) introduced it in the House where it passed 391 to 9.

Call your US Senators & ask them to pass the STREAM Act.

OPPORTUNITIES PRESENTED BY BIL

- Reclaim more AML over next 15 years than was reclaimed in previous 45 years.
- Treat more AMD than has ever occurred in history to improve water quality of many more miles of streams, creeks, and rivers so they can support wildlife, fishing, and other recreation. Will generate millions in local revenue.

OPPORTUNITIES (cont.)

- Fund OM&R of all AMD treatment systems for next 15+ years to protect this clean water infrastructure. Multi-year contracts.
- Will create well paid jobs for economically disadvantaged communities.
- Will protect investments made in this clean water infrastructure.
- Will enable passive treatment systems to be upgraded with the best achievable technology when they reach end of life. This will provide even cleaner water.

OPPORTUNITIES (cont.)

- Creates new economic revitalization opportunities.
- Enables advancements in the science of AMD treatment.
- Could create opportunity for development of AMD abatement technologies.
- Allows states to reforest more AML, which will reduce water pollution (less AMD, erosion, and sediment pollution) and restore ecosystems.

OPPORTUNITIES (cont.)

- Provides resources for more stream channel restoration with natural features.
- Development and implementation of AI-based digital terrain modeling for use on earth-moving construction equipment, which will lower cost of AML reclamation and construction of AMD treatment systems.
- Solar powered, high technology implementation of system automation.

THANK YOU! QUESTIONS?

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