

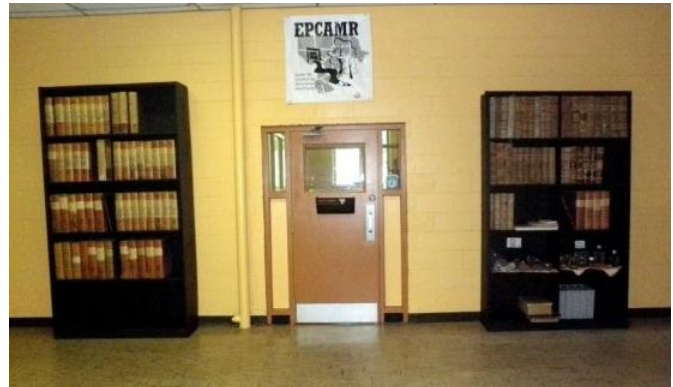
# EPCAMR



## 2009 Year in Review for the Eastern Pennsylvania Coalition for Abandoned Mine Reclamation

The EPCAMR organization is an extensive network of volunteers, non-profits and supporting agencies at the county, state, local, and federal levels versed in reclaiming abandoned mine lands (AML) and restoring our watersheds impacted by abandoned mine drainage (AMD). We have also developed an exhaustive set of technical, educational, and financial tools and resources that are continually updated on our website, [www.OrangeWaterNetwork.org](http://www.OrangeWaterNetwork.org). (Make note of the hyperlinks underlined in blue throughout this document, which will take you to more information).

It was a big year for EPCAMR, as the board decided to move their office and officially hire their staff to work exclusively for the organization. We appreciated the sponsorship role that the Luzerne Conservation District fulfilled since 2000 and were eager for the transition to occur. EPCAMR now administers the 3 year, base-level grant funding from the PA DEP Section 319 Clean Water Act Program. EPCAMR staff and interns, with the help of PJ's Construction and an anonymous foundation grant, renovated a 2000 sq. ft. office space and created a Technical Assistance Center in a former back office area of the Earth Conservancy (formerly the Blue Coal Corp.), adjacent to the Huber Breaker. Our office was once the shifting shanty where the men changed their clothes and later it became the Payroll Offices for Blue Coal.



*New EPCAMR Office Entrance in the Earth Conservancy Building,  
Ashley, PA*

The [Huber Breaker](#) is one of the last standing coal breakers in the Anthracite Region of Pennsylvania. It's hard to believe that less than 50 years ago, hundreds of them dotted the landscape, separating, mining, and extracting coal and employing tens of thousands. The office is still centrally located in the EPCAMR region (and much closer to the Nanticoke Exit off Route 81) at 101 South Main Street in Ashley, PA. Robert's windows get a worm's eye view of the monolithic structure and its' fading marketing logo that still reads.. "Home of Blue Coal.. America's Finest Anthracite".

EPCAMR staffs two full time employees: Executive Director, Robert E. Hughes, with over 17 years experience in abandoned mine reclamation and Program Manager, Michael A. Hewitt, with over 8 years experience, having interned with EPCAMR for two semesters before coming on full-time. In March, Robert was selected by the Susquehanna River Basin Commission (SRBC) for the 2009 [William Jeanes Sr. Environmental Service Award](#) for over 10 years of dedication to working in the Susquehanna River Basin to address AMD, AML, public education and outreach, and community service projects to improve the health of the watershed. He was the youngest environmental professional of the 6 previous winners to receive this prestigious award.

Interns Kyra Norton, Bloomsburg native, Shawn Jones, Wilkes-Barre native, and community volunteer, Rayne Brown, a Berwick native, also joined the staff to help out and earn on-the-job experience throughout the year. The EPCAMR staff is always available to answer any questions and concerns or to provide ideas and technical assistance on issues related to AMD / AML in northeastern and north central PA.

## 2009 Initiatives:

### [FACTS: Funding AMD Chemistry for Treatment Systems & Datashed](#)

Pennsylvania has invested heavily in passive technologies to treat the largest water pollution problem in the Commonwealth: AMD. Regular water sampling and testing is crucial in diagnosing a treatment system's wellbeing and success. The [FACTS program](#), administered by WPCAMR, and promoted by EPCAMR, puts satisfactory monitoring programs within the reach of the volunteer-based groups by covering the cost of laboratory analyses—hundreds of dollars annually for each system. The FACTS Program also streamlines the transfer of test results from laboratories using an Internet repository for water sampling data, called [Datashed](#). Laboratories upload analysis results to Datashed using unique Sample IDs that link each water sample to a specific date, treatment system, and sampling location. Datashed will store the complete history of a passive treatment system, helping to diagnose problems and allowing researchers to study and evaluate various AMD treatment technologies. Datashed also serves as an online repository for OM&R manuals, treatment system designs / specifications and a place to ask and answer questions about treatment systems through the “community wiki” online help forum.



### [Illegal Dump Site Cleanup and Beautification Initiative](#)



*Near the entrance to the Avondale Mine Disaster Site, abundant graffiti and trash under a bridge overpass.*

In March, EPCAMR Executive Director presented on how to engage community volunteers and where to find them at the PA CleanWays Illegal Dump Cleanup Workshop entitled “Empowering Pennsylvanians to Clean Up Their Communities” at the PA DEP NE Regional Office.

In April, the Horticultural students at the Wilkes-Barre Career Technology Center provided 20 hours of community service to cleanup and begin the development of the Avondale Mine Disaster Community Gardens Project along the Susquehanna Warrior Trail, Plymouth Township. Graffiti was removed from the lower foundation wall of the now abandoned Avondale Colliery, raised bed gardens were constructed, ivy was planted, weeds and invasive species were

eradicated, a concrete pad was repoured for placement of some recreational benches for trail walkers, and some garbage was removed from the site.

In August, EPCAMR was awarded a \$16,000 grant to coordinate, organize, and conduct 4-5 cleanup projects throughout the Wyoming Valley, nicknamed **Wyoming Valley PRIDE** (People Reaching Into Dumps Everyday). EPCAMR utilized its existing partnerships within the communities that we serve to begin the planning for several of the planned cleanups. Cleanups that were targeted are as follows: Canal Street Tire Pile, Plymouth Township; Avondale aml Mine Site, Plymouth Township; Curry



*Graffiti being covered by EPCAMR intern, Shawn Jones, along the near the Avondale Mine Disaster Site. Trash also removed.*

Hill, Plymouth Township, Pennsylvania Ave/High Street Hill Cleanup, City of Wilkes-Barre; Hicks Creek Streamside Cleanup, Exeter Borough; and the location of the future Anthracite Miners Memorial Park located on a 3 acre parcel of abandoned mine lands owned by the Huber Breaker Preservation Society, Ashley. Much of the planning for the cleanups were held over until the Spring of 2010, due to the delays in getting reimbursements from the Commonwealth of PA during the budget impasse in the Fall of 2009. In 2009, at the Avondale AML Site alone, 684 hours of volunteer's time were logged, 1.5 Tons of municipal waste was disposed of, 45 tires were collected, 1 acre of land was reclaimed, and 3 community gardens were cleared and prepped for future planting and landscape design.

#### [RAMLIS GIS Tool Development: Reclaimed Abandoned Mine Land Inventory System](#)

EPCAMR continues to update and distributed the RAMLIS GIS Tool CDs currently at Version 9 to watershed groups, community non-profits, and local governments. The RAMLIS GIS Tool is a conglomeration of statewide and regional GIS Data related to mining, abandoned mines, land use and water quality which aides in gathering statistics and producing maps of mine scarred lands throughout Pennsylvania. Specifically this database shows AML Priority 1, 2 and 3 locations statewide, with information on PA DEP BAMR's plans for reclamation. The project was made possible with funding from the Foundation for PA Watersheds, PA DEP's 319 Program and the use of OSM's ArcGIS License. Updated datasets are produced yearly and EPCAMR is in discussions with the OSM to develop an online ARC IMS System. 15 RAMLIS 9.0 GIS Tool CDs were distributed in 2009 and posted a [KML file for use with Google Earth](#) version of the tool on our website.

#### [Iron Oxide Resource Recovery Initiative for NE PA:](#)

EPCAMR has been the leader in Northeastern Pennsylvania to pioneer the idea of economical recovery of various iron oxides from AMD discharges, and or from AMD Passive Treatment Systems in Eastern PA. Armed with a baseline analysis of 25 large mine discharge metallurgical analysis and loading calculations with the help of Hedin Environmental, EPCAMR Staff continue to collect iron oxides from several discharges and innovatively create a reusable green product. Over 7 states have requested EPCAMR's iron oxide for their environmental outreach programs throughout the year. The samples are dried, heated to varying temperatures for color gradient changes, ground into a flour-like consistent pigment powder, and then distributed to local artists, watershed groups, elementary schools, and school art programs for use in pigments as paints, stains, tie dying, and the creation of EPCAMR's very own Iron Oxide Chalk. AMD Chalk Talk Programs are offered by EPCAMR. For more information please see out [Iron Oxide Recovery Pamphlet](#)



*Students Tie Dying T-shirts with Iron Oxide collected locally from AMD streams.*

#### [Old Forge Borehole Innovative AMD Treatment Project](#)

Lackawanna Co. – Duryea Borough received approximately ~\$784,000 from the PA Department of Community and Economic Development through the gaming funds to work with Solution Mining, Inc., Lackawanna River Corridor Association, EPCAMR, HDR, and other partners to demonstrate a new treatment technology for the Old Forge Borehole and to acquire the land to construct the final AMD



*Students sampling water from the Old Forge Borehole concrete flume, a discharge to the Lackawanna River.*

Treatment facility. The Old Forge Borehole discharges ~50 million gallons per day and is the largest AMD discharge (based on flow) in Pennsylvania. The new treatment technology does not use chemicals; rather it uses physical properties of increased surface area, and gravity-fed aeration, to settle out and collect iron solids for reuse. Other green technologies such as micro hydro power generators, carbon sequestration, aquaculture, water banking, consumptive use credits, and geothermal heating are all being explored in the final design. Several hurdles became walls to progress in this project in 2009, so EPCAMR had to go down a different pathway for this project. EPCAMR began working with the Lackawanna River Corridor Association, Susquehanna River Basin Commission, Lackawanna County Commissioners, The Willary Foundation, and the PA DEP Growing Greener Program to focus in on coming up with an appropriate design for a pressurized transducer to more accurately monitor the flow and chemistry of the discharge before doing anything else. EPCAMR will begin to research and map the mine pool extents for the Old Forge Borehole as a first priority to properly assess the AMD impacts in the lower Lackawanna River Valley come April 2010.

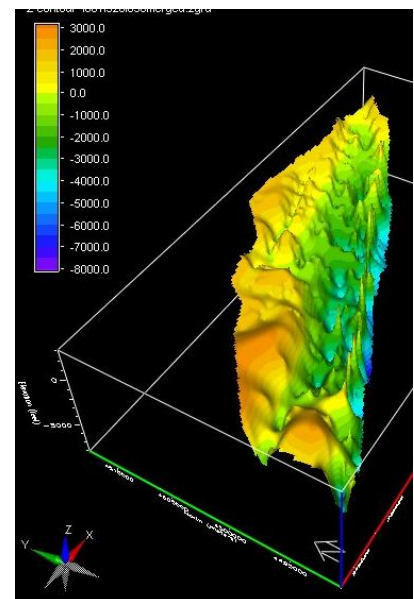
[Hicks Creek Natural Stream Channel Restoration Project:](#)

Skelly & Loy and Borton Lawson Engineering have been working with EPCAMR, Luzerne Conservation District, other State agencies that are a part of the review permitting review process, and the PA DEP Bureau of Abandoned Mine Reclamation in 2009 to complete and submit the Joint Permit Application for final review and administrative completeness. Again, delays in the State budget process forced EPCAMR to nearly halt all work beyond June 30, 2009 until we received official word from the State that our project would be extended beyond the grant deadline. That official extension did not occur until a few short months ago. EPCAMR has again asked for an extension for 1 year to complete the project until June 30, 2011. Bids for construction will be developed over the course of the next few months and will be advertised. Construction and placement of 61 fluvial geomorphologic (FGM) structures called step-pools along the almost 2,000 linear foot stretch should begin in the late Summer 2010, possibly Fall 2010, pending an approved extension of our grant. The Joint Permit Application process alone can take anywhere from 3-6 months. Our major goal is to stabilize bank erosion from a highly erodible abandoned mine problem feature, provide a low flow channel and slow high flow surges through the area to mitigate flooding downstream.

[Mine Pool Mapping Initiative:](#)

EPCAMR received a Growing Greener Grant of \$150,000 to compile, update and fill in data gaps on location of mine pools in the Anthracite Region’s Western Middle and Southern Coal Fields, with an emphasis on studying the economic benefits of reusing mine pool water and possibly reducing or eliminating discharges. New GIS layers are being developed based on Surface Mine Permit Files, Operation Scarlift, Bureau of Mines Reports, the 2nd Geologic Survey and historical mining maps with the help of the Pottsville District Mining Office, the Wilkes-Barre BAMR Office, the USGS PA Field Office, the OSM Pittsburg Field Office and other partners.

Now in our 3<sup>rd</sup> year of this study, we are on the cutting edge of developing digital mining maps in 3D for the entire Anthracite Coal Region that has not been done before. So far, preliminary data has been generated for the Western Middle Field and started for the Southern Field. 12 separate GIS layers are in development representing mine drainage tunnels, mine pool / geo-basin boundaries, barrier pillars, mine water flow paths, old workings (before 1900), anticlines and infiltration points to learn about the underground effects of mining and potential for water storage in the Anthracite Region. In the process, 44 maps were georeferenced (including 23 OSM Folio maps) and converted into a digital format. Working with a



*3D Grid of the Buck Mountain Vein in the Southern Anthracite Coal Field. Looking northeast from Joliet, PA in the foreground to Delano, PA. Sharp Mountain, containing an overturned fault, on the right proves a problem for software.*

technical support member from Dynamic Graphics, the makers of Earth Vision, EPCAMR and Pottsville District Mining Office staff created a workflow regime and converted 4 sets of USGS Coal Investigation Series coal cross sections into 3D grids and a fault model for the Western Middle Field. Creating these 3D layers can lead to better predictions of mine water volume held in the mine pools.

Also in their 3<sup>rd</sup> year, Shamokin Creek specific studies continue to evaluate the Scott Ridge Overflow and Colbert Mine Breach (Sites 19 and 20) for possible treatment and reuse for the expanding industrial park as an alternative to the expensive public water. A hydrology study was completed for Big Mountain Discharge (Site 23) by Miser and Earle, Inc. which concluded that the Sterling and Big Mountain mine pools are somewhat interconnected as proven by a spike in pH and increased flow at certain times of the year coming from a fracture in the barrier pillar that was believed to completely separate the two.

In 2009, EPCAMR saw an influx of Natural Gas Exploration and Drilling companies into the EPCAMR Region. In the gas well drilling process, one well can consumptively use up to 5 million gallons of water to “frac” or hydraulically fracture. Some mine drainage water in the Anthracite Region is low enough in contaminants that it can be used in this process; others would not take much treatment to meet criteria. Gas drilling companies may want to finance AMD treatment plants in order to get water for their drilling while operation and maintenance costs would be taken care of through a trust fund. EPCAMR met with several “consumptive use” companies to market mine pool water while the PA DEP and Susquehanna River Basin Commission find ways to provide incentives for companies to use AMD. EPCAMR would like to continue to further develop our Mine Pool Mapping initiative in more detail with some of these companies by creating 3-D models of the localized mine pools that they are targeting, since we are experienced in the development and interpretation of the mine maps.

#### **Technical Assistance Summary:**

The EPCAMR Staff continue to provide mapping assistance and gather statistics for various partners using GIS technologies through a Memorandum of Understanding with the Office of Surface Mining’s Appalachian Region Technology Transfer Team. EPCAMR aided the PA DEP and EPA 319 Program plan maps and compared to other DEP watershed based plans including TMDLs, BAMR HUPs and QHUs to find gaps or duplication of coverage.



*Anthracite Heritage Area VISTAs participating in AMD Sampling Protocol Training at Newport Creek, Nanticoke, PA.*

EPCAMR continues to conduct AMD Sampling Certification for watershed groups and non-profits alike. All Anthracite Heritage Area VISTAs completed the training in 2009. The training program is similar to EPA's standards, but personalized for the Anthracite Region. EPCAMR has created a standard form and manual for data collection as a part of the AMD sampling protocols certification training that provides for ease of upload to Datashed and other water quality sampling databases.

EPCAMR produced approximately **60** maps or datasets from GIS layers for partners in 2009. In addition, EPCAMR staff provides technical grant writing assistance to our regional partners; **26** grants were submitted with EPCAMR assistance totaling approximately **\$800,000** for projects in the EPCAMR Region.

#### **Treatment System Operation, Maintenance and Replacement (OM&R) Matters:**

Operation and Maintenance of existing systems is an ongoing concern with watershed groups and development of maintenance manuals are key to smooth operation and continual funding. EPCAMR is continuing to aide in the development of [Datashed](#) as an online OM&R resource for groups. WPCAMR continues to maintain an OM&R Quick Response fund through a Growing Greener grant where groups

statewide can apply to quickly repair a treatment system. EPCAMR promotes this funding mechanism to all of the watershed groups with treatment systems in northeastern and north central PA.



*Fence installed around the SCRA Site 15 Treatment System along Rte 901 near Ranshaw, PA*

Northumberland County Conservation District installed a fence at the Site 15 (Corbin Mine Drift ) project, as requested by the township. EPCAMR served as a pass through for the EPA funds and provided reimbursements to NCCD.

Wildlands Conservancy secured \$10,000 from the PA DCED to support ongoing O& M for their Lausanne Tunnel AMD Treatment System.

Babb Creek Watershed Association, Inc. received a \$428,710 grant for a 53 kilowatt microhydro turbine on the discharge side of the Antrim acid mine drainage treatment plant. Expected generation is 460,000 kilowatt hours per year. The Antrim

treatment plant will receive a large portion of the power, saving it \$9,400 annually, with excess to be sold, generating \$17,300 annually. The plant treats 1,800 gallons per minute of acidic mine drainage, one of the state's most difficult environmental challenges.

Repairs on the Audenreid Treatment System continued in 2009, but were complete by October. Despite several setbacks, the Schuylkill Conservation District, Catawissa Creek Restoration Association, Rettew Associates and the contractor resolved to get the system operational again.

Dauphin County Conservation District received \$75,000 from Growing Greener to install a liner in the final polishing pond at the Bear Creek Phase 1 mine drainage system to eliminate leaks.

**Keeping Track of the Numbers – New Mine Drainage Treatment Projects:**

OSM's AMD Treatment System Database was uploaded to Datashed and Pennsylvania's inventory is now maintained on this GIS enabled website. The inventory provided vital statistics on about 400 Acid Mine Drainage (AMD) treatment projects in the Appalachian Region. In 2008, over 258 of those were in Pennsylvania costing over \$77 Million to construct with an additional \$3 Million in rehabilitation costs spent since 1994. The searchable database is available at [www.datashed.org](http://www.datashed.org). EPCAMR, WPCAMR and the PA DEP Bureau of Abandoned Mine Reclamation continue to submit updates and corrections as they are discovered and constructed.

Wildlands Conservancy installed the Buck Mountain #2 ALD to treat water flowing to the Buck Mountain Creek and the Lehigh River.

In Schuylkill County, the construction of the Oneida #3 Mine Drainage Treatment system was completed in December 2009 near Sheppton, PA. The Oneida #3 Mine Tunnel Discharge is the second largest discharge to the Catawissa Creek with an average flow of 4,000 gpm, a pH of 4.6, net acidity of 15 mg/l, total aluminum of 2 mg/l, total iron of 0.2 mg/l and total manganese of 0.5 mg/l. The system was designed similar to the Audenreid Treatment System, but only needed 2 limestone filled tanks. Due to limited Growing Greener grant funding and increased construction costs, only 1 tank was installed, but the system may be expanded when money funding is available.

Schrader Creek Watershed Association received \$414,260 in Growing Greener funding for construction of two mine drainage treatment systems and application of lime and limestone to restore the headwaters of Schrader Creek and its tributaries.

EMARR Inc. received \$235,000 in Growing Greener funding to design a system to treat mine water from the Green Mountain and Audenreid discharges to create a potable water supply for the Humboldt Industrial Park and power a hydroelectric plant to operate the treatment system.

On a national level, passive treatment systems are also coming under scrutiny based on lawsuits that originated in West Virginia and Colorado courts. The systems in these cases were required to have NPDES, which was never a requirement for a system installed by a nonprofit community based group. Also connected with this issue is the lack of a nation-wide Good Samaritan Act. Even though PA does have one, it does not cover the NPDES issue. PA DEP Section 105 Program is developing a permit for passive treatment systems that are built and run by volunteer groups.

**Reclamation to repair AML and reduce AMD:**

Deep mine drainage is produced when clean water, either ground water or surface water, infiltrates voids in underground mines and meets up with pollution producing materials. Not much can be done to stop ground water from entering underground mines, but surface water can often be diverted from known infiltration points on abandoned mine lands and reconnected to headwater streams. Several abandoned mine reclamation / active re-mining projects are not only reducing health and safety problems, but also keeping clean water on the surface in the EPCAMR Region.

Eight (8) AML reclamation projects were completed in 2009 in the EPCAMR Region by the PA DEP Bureau of Abandoned Mine Reclamation (BAMR) totaling **\$4,526,024**: 3 projects in Lackawanna County near Carbondale (FALL RUN, SW CARBONDALE, CARBONDALE TWP. NE ) reclaimed 212.1 acres for \$4,460,131. 3 projects in Luzerne County (ASKAM, AD 0833 DANGEROUS HIGHWALL and AD 0834 Hazardous Equipment/Facility) were completed for \$6,233. 2 projects in Schuylkill County (RAUSCH CREEK TREATMENT PLANT ROOF near Hegins was repaired with \$56,620 of Title IV AMD Set-aside Funds and GAME LANDS 229 Schuylkill Reilly Twp. was reclaimed for \$3,040).

Eleven (11) projects were in process in the EPCAMR Region by the PA DEP Bureau of Abandoned Mine Reclamation (BAMR) using a mix of Title IV, Appalachian Clean Streams Initiative and Growing Greener Funding totaling **\$27,942,373**: 3 in Lackawanna County (DOLPH COLLIERY MINE FIRE(GA) near Olyphant ~40.0 acres for \$5,600,000, TAYLOR SOUTH MAIN near Taylor ~85.0 acres for \$1,458,977 and NORTH GOLF COURSE Lackawanna Taylor ~ 64.0 acres for \$1,122,978), 4 in Luzerne County (FERN GLEN in Black Creek Twp ~56.8 \$1,456,186, NEWPORT NORTH in Newport Twp.~ 36.0 acres for \$717,080, PITTSTON PLAZA MALL near Pittston ~ 78.0 acres for \$1,088,850 and CURRYHILL-AVONDALE in Plymouth Twp. ~136.8 acres for \$3,954,100) and 4 projects in Schuylkill County (LITTLE WOLF CREEK in East Norwegian Twp. ~268.2 for \$10,859,042, GREENE MOUNTAIN SOUTH in East Union Twp. ~109.3 acres for \$1,795,443, BRANCH DALE EAST in Reilly Twp.~72.0 acres for \$1,438,094 and MARY D EAST in Schuylkill Twp. ~7.0 acres for \$257,553).



*Trenches dug to help extinguish the Dolph Mine Fire near Olyphant, PA that has been burning for approximately 3 years now.*

*Lackawanna County* - Taylor Borough, working with Malcolm Pirnie, was awarded an EPA Brownfields Redevelopment Grant in 2006 and has completed a Phase I and II assessment of 150 acres of AML in the heart of Taylor, PA. BAMR awarded a \$1.4 million contract to regrade piles on the site and restore Keyser Creek.

*Luzerne County* - Earth Conservancy received \$400,000 in the form of a Growing Greener grant to partly fund reclamation of a former strip mine to reduce acid mine drainage to the Nanticoke Creek watershed and prepare the land for residential, recreational and economic uses.

*Luzerne County* – A controversial R&D project near Hazleton, PA proposes to reclaim about 220 acres of abandoned mine lands with more than 10 million cubic yards of river dredge & fly ash. Since 2006, approximately 1 million cu. yds. of material from Ft. Mifflin has been used on site. Supplier and

independent tests were performed before shipment of the dredge materials and after they arrived on the site in Hazleton. A few batches were rejected with substances over permitted levels.

*Carbon County* - EPA is overseeing the cleanup of the Palmerton Zinc Pile Site near Palmerton, PA. CBS Operations spread fertilizer and seed using a crop-duster over approximately 700 acres of National Parks Service and PA Game Commission Land with success in 2008-2009. EPA Case study concluded that as a result of negative public perception, biosolids application was replaced with mushroom compost.

*Schuylkill County* – Pennsylvania Environmental Council, Pittsburgh Office, has teamed up with the Chesapeake Bay Foundation and Duquesne University to continue the Manure and Minelands Research project utilizing Poultry Manure to enhance soils on Minelands. One pilot project was completed near Valley View, PA.

Currently coal ash is under scrutiny nationally, the PA DEP still approves the disposal on minelands as a beneficial use. EPA may reclassify coal ash as a hazardous waste. As was presented at the annual conference on AMR, not all coal ash is made the same. EPCAMR staff presented at the ARIPPA Tech. Symposium and lead political leaders on a tour of sites reclaimed by coal ash. ARIPPA reports that 145 million tons of culm (waste coal) has been processed and burned for energy by their member plants from 1998 to 2008. They also claim the reclamation of approximately 4,500 acres of mine lands and the employment (directly and indirectly) of approximately 2,500 workers. All of these reclamation projects are at no cost to taxpayers and are in addition to PA DEP BAMR reclamation projects.

In the face of the energy crisis, the coal mining industry saw increases as the country searched for alternative sources of energy. Almost 9,500 coal mining sites were active in Pennsylvania statewide in 2009. 176 active mining companies renewed or started mining coal on 612 sites in the EPCAMR Region according to [eFACTS](#).

#### **Removing Miles of Streams from the List of Impaired Waters:**

EPCAMR and WPCAMR staff has been charged with the mission to assist the PA DEP Bureau of Watershed Management Section 319 Program with reassessing streams and removing improved stream segments from the Non-Attaining Streams category on the Integrated List of Waters (formerly the 303(d) list of impaired waters). 63 formerly AMD Impaired stream segments have been reclassified in the EPCAMR Region from 1998 – 2004. EPCAMR has been utilizing the RAMLIS tool and data from DEP and watershed groups to aide in identification. There is also a [candidate stream reassessment suggestion form](#) on our website. Babb's Creek in Tioga County was recently "de-listed" as a part of this effort. As a continuation of this work in 2009, EPCAMR submitted Silver Creek in Schuylkill County, REACHCODE(s) 02040203003849, 02040203009086, & 02040203009085 to the PA DEP Improved Streams for Reconnaissance Survey list. The segments in question are approximately 1.4 miles in length. These sections above the Silver Creek Reservoir are not impacted by mining as indicated by PA Fish and Boat Commission Comments and Recommendations dated December 9, 2008.



A part of the process to remove a stretch of stream from "the list" is to prepare a Total Maximum Daily Load Study to show the amount of pollution that needs to be removed to put that stream back attaining its use. The following are a list of TMDL Plans involving Mine Drainage that are approved or close to completion in the EPCAMR Region by the PA DEP:

- [Black and Hazle Creeks](#) TMDL in Luzerne Schuylkill & Carbon Counties was approved 4/9/2009.
- [Buck Mountain Creek Watershed TMDL](#) in Luzerne & Carbon Counties was approved 4/9/2009.



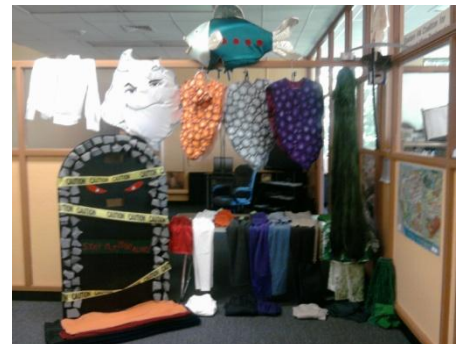
- [Lehigh River TMDL](#) in Monroe, Lackawanna, Luzerne, Carbon, & Wayne Counties was approved 7/7/2009
- [Newport Creek TMDL](#) in Luzerne County was approved 4/7/2009
- [Pond Creek, Sandy Run and UNT 02446 Sandy Run Watersheds TMDL](#), Luzerne County was approved 4/9/2009.
- [Susquehanna River Metals](#) TMDL in Columbia and Luzerne Counties was approved 4/7/2009
- [Pine Creek \(AMD\) TMDL](#) in Schuylkill & Dauphin Counties was approved 2/3/2009.
- [Nesquehoning Creek TMDL](#) in Schuylkill & Carbon Counties was approved 4/9/2009.
- [West Branch Susquehanna TMDL](#) in Indiana, Clinton, Lycoming, Cambria, Northumberland, Centre, Clearfield, & Union Counties was approved in 7/9/2009.

### Outreach Summary:

EPCAMR and WPCAMR both have developed and continue to maintain very informative and up-to-date websites to disseminate information to the World Wide Web. EPCAMR's [www.OrangeWaterNetwork.org](http://www.OrangeWaterNetwork.org) and WPCAMR's [www.AMRClearinghouse.org](http://www.AMRClearinghouse.org) are excellent conduits for distributing information and news in a cost effective, paperless way. As a part of these websites, AMD/AML related news is distributed through EPCAMR's "EC Express" and WPCAMR's "AML Posts" to readers statewide and beyond. EPCAMR now has a [Facebook Page](#) which allows our staff to post the most up-to-the-minute updates directly to over 117 fans. This social networking resource has allowed staff to collaborate better with volunteers and other online resources and to post articles of interest to our community groups and volunteers on AMD and abandoned mine reclamation-related issues.

EPCAMR prepared Letters of Support to Senator Specter, Senator Casey, and Congressman Kanjorski for keeping the Watershed Cooperative Agreement Program funding included in the Title IV AML funding package for community watershed groups and non-profit partners in Eastern PA that utilize those funds to assist in the construction of AMD remediation projects.

EPCAMR was awarded a grant from the Scranton Area Foundation and the PA Council on the Arts to create additional costume designs for our **AMD Avengers vs. Pollution Posse Activity Book** on abandoned mines created by Costumes by Barbara (Barbara Gavlick, Luzerne, PA) to develop skits, improve, and create props for the educational activities. Work continued on the design of the costumes, props, backdrops, and skits that will be introduced in the Spring 2010 school year with the 4<sup>th</sup> grade Nanticoke Elementary Center.



*A few of the costumes for the AMD Avengers vs. the Pollution Posse Skit.*

**2009 PA Statewide Conference on Abandoned Mine Reclamation:** The AMR Conference Committee hosted the 11th annual Pennsylvania statewide Conference on Abandoned Mine Reclamation and Coal Mining Heritage. Over 175 attended the 4 day conference held at the Living & Learning Center on the University of Pittsburgh Johnstown Campus. The conference proceedings can be found at [www.treatminewater.com](http://www.treatminewater.com).

**Anthracite Heritage Alliance (AHA) OSM/VISTA Appalachian Coal Country Watershed Team Partnership:** EPCAMR conducted a regional Anthracite Region AMD Monitoring Field Training Certification Program for 7 OSM/VISTA Team members for northeastern PA to work on community projects in the Anthracite Coalfields. EPCAMR played a key role in coordinating meetings between OSM, Delaware & Lehigh National Heritage Corridor Commission, Schuylkill National Heritage Corridor Commission, Lackawanna Heritage Valley Authority, Lackawanna River Corridor Association, Eastern Middle Anthracite Regional Recovery Inc., Greater Hazleton Area Civic Partnership, Schuylkill River

Greenway Association, Schuylkill Conservation District, PA DCNR Nescopeck State Park, Friends of the Nescopeck, Lackawanna County Conservation District, Preservation Action, and PA DEP BAMR to get the team infused into the Region. The Delaware & Lehigh National Heritage Corridor Commission is now serving as the coordinating entity for the AHA OSM/VISTA Team. EPCAMR is trying to work with the D & L to come up with matching funds for an EPCAMR OSM/VISTA in 2010.

**ARIPPA support:** EPCAMR was represented on an Spring Tour with the legislative aides and other PA DEP, and US EPA Officials that toured AMD sites, the Ebensburg waste coal pile, and the Cambria Co-Gen Plant to talk about and showcase the beneficial use of CFB ash on abandoned mine reclamation sites across PA. EPCAMR staff also presented on its Mine Pool Mapping Initiative at ARIPPA's August Technical Symposium to business leaders in the Co-Generation trade association industry.

EPCAMR also conducted over **25** informative presentations on AMD/AML issues to schools and colleges. Several of these also included outdoor field tours to show students what problems are in their community or hands on AMD Tie Dye activities where students use recovered iron oxides to make art. These tours, presentations and workshops literally reached thousands of students in 2009.

For more information, please contact:

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