

# EPCAMR



## 2005 Year in Review

for the

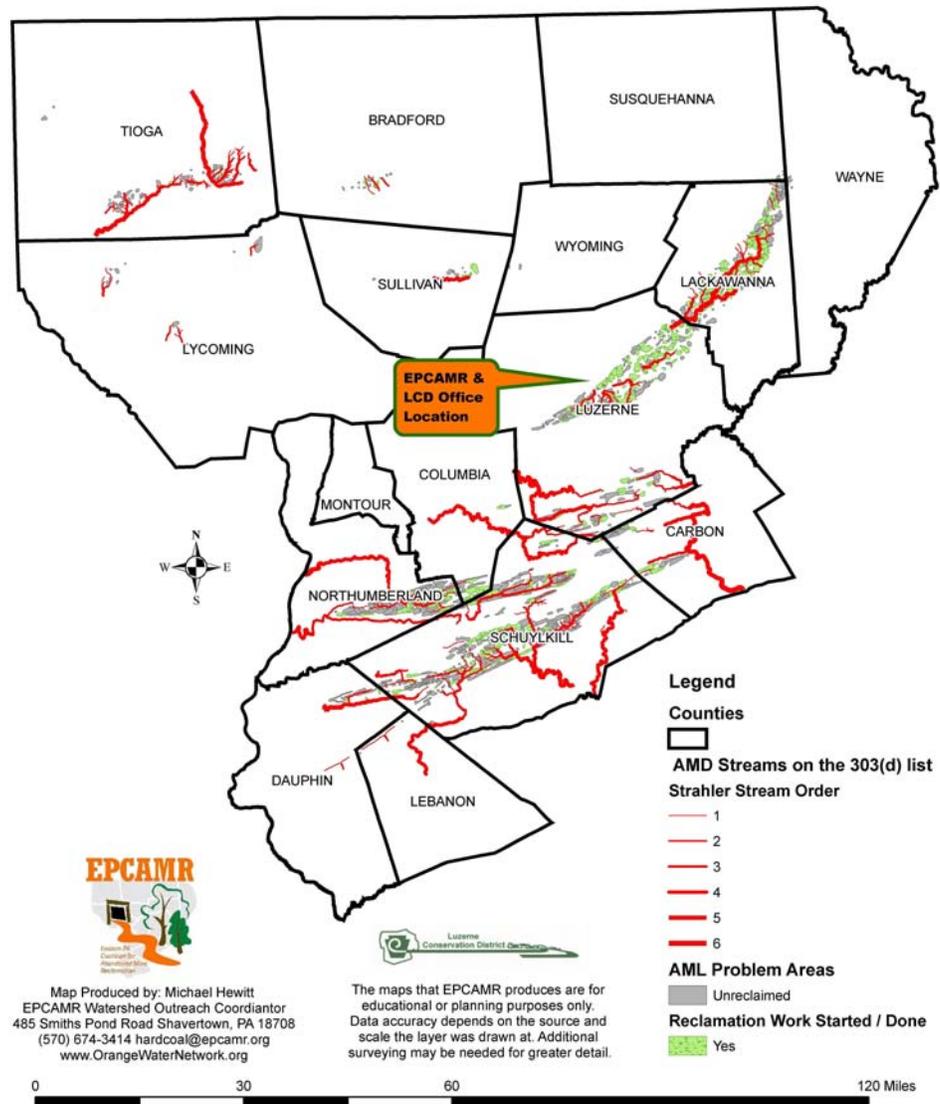
## Eastern Pennsylvania Coalition

## for Abandoned Mine Reclamation Program

The EPCAMR Program Staff has grown to include a full-time Municipal GIS Outreach Technician, funded under a National Fish & Wildlife Foundation Grant, a full-time Office of Surface Mining / AmeriCorps VISTA Watershed Development Coordinator, funded in part by the Office of Surface Mining and the Corporation for National Service, EPCAMR, and the Pocono NE RC & DC, and a part-time Environmental Education Intern, supported by EPCAMR and PPL funds.

The EPCAMR Program Staff are centrally located in the EPCAMR Region, housed at the Luzerne Conservation District, our local Sponsoring Organization, which administers and supports our base level grant funding from the PA DEP Section 319 Program. The EPCAMR Program Staff are always available to answer any questions, concerns, ideas, technical assistance, and thoughts on issues related to AMD/AML in Northeastern PA. The EPCAMR Organization is an extremely extensive network of volunteers, supporting agencies, at the County, State, Local, and Federal levels, versed in reclaiming abandoned mine lands and restoring our watersheds impacted by AMD. We have also developed an exhaustive set of technical, educational,

EPCAMR Regional Coverage Area:  
Anthracite and Northern Bituminous Coal Fields of Pennsylvania



and financial tools and resources that are continually updated on our website, located at [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 about the topic).

### **2005 Initiatives:**

[Iron Oxide Resource Recovery Initiative for NE PA](#): EPCAMR is the first regional non-profit organization to pioneer this type of project to see if there are ways to economically recover various metal oxides from AMD discharges, and or from AMD Passive Treatment Systems in Eastern PA. In cooperation with Hedin Environmental, 25 samples were taken and metallurgical analysis of the results has shown that a majority of the sites produce 90% or better marketable iron oxide pigment product. The EPCAMR Program Staff are hopeful that the successful completion of this project will assist in the development of a new resource recovery market for AMD remediation in PA that will eventually lower the costs of maintaining passive treatment systems in Northeastern PA, by developing a return on the investment of the market potential for the iron oxide deposits that plague about 4,000 miles of streams in PA. The Program Staff convened a meeting on the subject with 45 attendees and continue to try and find private entrepreneurs or companies that might be willing to demonstrate the usefulness and profitability of the iron oxide pigment qualities on the open market throughout Northeastern PA. EPCAMR Program staff also won the 2005 Karl Mason Award from the PA Association for Environmental Professionals (PAEP) for this effort.

[Audenreid Mine Tunnel AMD Treatment Project-Catawissa Creek Watershed](#): Construction of the Audenreid Mine Tunnel Discharge Passive Treatment System was completed in December 2005 in the Catawissa Creek Watershed approximately 2 miles east of the town of Sheppton in Schuylkill County, Pennsylvania. The Audenreid Mine Tunnel Discharge is the largest abandoned mine drainage (AMD) discharge within the Catawissa Creek Watershed. The system is treating over 8,000 gpm of mine water that is polluted with dissolved aluminum and acidity and is the largest AMD Passive Treatment System in the Anthracite Region that is draining a majority of the underground mine water from the Jeansville Basin, which lies in Luzerne County. The mine water is collected and separated into three 120 ft diameter, 10 ft deep concrete tanks that are each filled with approximately 4,500 tons of high grade limestone. The treatment system is expected to allow Catawissa Creek to meet total maximum daily load requirements by reducing 21% of the iron, 73% of the manganese, 95% of the aluminum, and 99% of the acidity from the Audenreid Mine Tunnel discharge. Preliminary results indicate acid neutralizing capacity increased almost three times that of what it was before treatment and pH increased by approximately 30%. 25 out of 36 miles of the main stem of the Catawissa Creek, downstream of the Passive Treatment System have seen an increase in pH within the first three months after going online in December 2005. The Schuylkill Conservation District, in partnership with the Catawissa Creek Restoration Association, and EPCAMR received nearly 2 million dollars in grants to construct this project, the largest funding source being \$1.4 Million from the Growing Greener Program. EPCAMR's contribution to the project was \$250,000 in grants from the PA DEP Bureau of Abandoned Mine Reclamation and the Office of Surface Mining.

[Manure and Mine Lands Project: Economic Savings to Reclamation](#): The EPCAMR Program Staff in cooperation with the Pennsylvania Environmental Council, the PA Department of Environmental Protection, PA Department of Agriculture, Wenger Feeds, Capital Region RC & DC, and The Pennsylvania State University, provided in-kind matching funds and used GIS layers of Concentrated Animal Feeding Operations and created a layer of Concentrated Animal Operations provided by County Conservation Districts in the EPCAMR Region to determine the proximity of excess manure to the location of nearby abandoned mine lands for application as a possible soil amendment to the barren soil (culm). The CAFO's and CAO's were sorted by animal type and several distance radii were draw around them to show their relative closeness to abandoned mine land features taking into account transportation and hauling costs.

Geographic Information Systems AML Mapping Support Program for Local Governments: The EPCAMR Program Staff have borrowed a very productive community outreach program for AMD/AML impacted municipalities called "AMD in Your Community" from WPCAMR and adapted it and geared the materials towards problems facing local governments in the Northeastern part of PA and in the Northern Tier Region. The Abandoned Mine Land Inventory System (AMLIS) Geographic Information Systems (GIS) Mapping Program was presented to 10 municipalities in 2005. The Program is being implemented by Rob Lavelle, EPCAMR Municipal GIS Technician, funded under a National Fish & Wildlife Foundation Grant to provide 3 FREE GIS Maps to municipalities that attend one of the series of 2-hour workshops that have been held throughout the EPCAMR Region. A brand new 44" wide color plotter has been acquired by EPCAMR and will be heavily used during the course of the project for producing professionally colored maps for local governments that will show various layers of land use, abandoned mine land acreage, stream miles impacted by abandoned mine drainage (AMD), watershed boundaries, aerial photos, and other thematic areas of interest to the local municipalities.

Lykens Water Level Tunnel AMD Treatment Project-Wiconisco Creek Watershed: The EPCAMR Program Staff in cooperation with the Dauphin Conservation District, Hedin Environmental, the USGS, Medco Corporation, PA Game Commission, and Skelly & Loy Engineering, Inc. began the final passive treatment system design in April of 2005. The passive treatment system will consist of Basin "A", which is a settling basin directly adjacent to the Lykens Tunnel discharge, Basin "B" that has two cells consisting of a settling portion and a vertical flow wetland (VFW) portion, and Basin "C" that is the final settling basin prior to discharging into Bear Creek.. EPCAMR received a grant in the amount of approximately \$70,000 to acquire the land for the treatment system, monitor the project's construction, and finally transfer the property over to the PA Game Commission to allow for perpetual treatment of the mine discharges.

Watershed Restoration Easement Development for AMD Remediation Efforts: The EPCAMR Program Staff worked with Stell Environmental Enterprises, with funding from the William Penn Foundation, PA Land Trust Association, PA DEP Bureau of Abandoned Mine Reclamation, PA DEP Pottsville District Mining Office, several watershed organizations and Conservation Districts to develop a stand alone Water Quality Improvement Easement that could be used by community groups, Conservation Districts, or watershed organizations when dealing with landowners when trying to secure a location for the potential treatment of AMD.

Stream Side and Abandoned Mine Land Clean Ups: The EPCAMR Program coordinated 4 separate cleanups in 2005; including the Sugar Notch Run and Gardner Creek Clean Ups as a part to the Wyoming Valley Streamside Cleanups, the Avondale Hill Trail Cleanup and the Susquehanna River Flood Plain Clean Up in Plymouth Township.

Lewis Mine AMD Remediation Project on the Loyalsock Creek: EPCAMR received \$5000 from the Western PA Watershed Program and the Degenstein Foundation to apply towards the construction of an AMD Passive Treatment System on the Lewis Mine discharge on the Loyalsock Creek. The EPCAMR Program Staff worked in partnership with the Loyalsock Creek Watershed Association, Sullivan County Conservation District, Endless Mountains RC & DC, and Hedin Environmental to lay the groundwork for the design of the Passive Treatment System in 2005.

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

The EPCAMR Program Staff were involved in the development of the Office of Surface Mining's AMD Passive Treatment System Database. The current number of sites identified is 229 statewide with more to be added. It also contains water quality data which will help determine load reductions in the treatment systems. The EPCAMR Program Watershed Outreach Coordinator calculated Treatment System Load Reductions for the projects that had related water quality data. These calculations will

aid in beginning the assessment of Total Maximum Daily Load Reductions for the respective stretch of 303(d) listed streams.

The EPCAMR Program Staff were able to develop a tool to show abandoned mine land reclamation using Arc GIS 9.1 Arc Info Software and various extensions, through a Memorandum of Understanding with the Office of Surface Mining's Appalachian Region Technology Transfer Team. The PA DEP Bureau of Abandoned Mine Reclamation (BAMR) Database was combined with the Abandoned Mine Land Information System (AMLIS) Database to create both a state wide and a case-by-case view of the current status of Abandoned Mine Reclamation by PA DEP BAMR. EPCAMR, DEP District Mining Offices, WPCAMR and the Western PA Watershed Program will be collecting more information to include reclamation done by other entities, Growing Greener, other State funding sources, active mining operations, and other historical mining information.

The EPCAMR Regional Coordinator provided technical comments to several planning sources; including the PA DEP Stormwater Focus Group, PA State Water Planning Committee, PA DEP Non-Point Source Liaison Workgroup' Resource Extraction Subcommittee, and the Pocono NE RC & DC's Stormwater Focus Group who is developing a Stormwater Handbook for Municipalities, on the concerns that the EPCAMR Program has related to allowing stormwater to be directed towards abandoned mine land areas that have been disturbed, where open abandoned stripping pits, subsidence prone areas or dry siltation basins exist. The EPCAMR Program is encouraging Conservation Districts, PA DEP, local governments, and developers to consider alternative stormwater Best Management Practices in the abandoned mine land areas and not to encourage infiltration that might otherwise contribute to the underground mine pool complexes and have the potential to produce even more abandoned mine drainage.

Chesapeake Bay Tributary Strategy Conservation District Implementation Plan Development: The EPCAMR Program Staff assisted 8 Conservation Districts in the EPCAMR Region with developing GIS mapping statistics and analyses to support their respective County Tributary Strategy Plans.

#### **Outreach Summary:**

"Got AMD?" Tie Dye T-shirt: The EPCAMR Program Staff came up with a slogan and marketing idea that was borrowed from the "Got Milk?" television campaign to promote our Program and our website. Dozens of shirts have been sold and the EPCAMR Program Staff periodically tie dye additional shirts that will end up being sold for \$8.00 with the funds raised going towards the Program's education and outreach efforts in the Region.

2005 Mine Water Treatment Technology Conference: EPCAMR Program Staff co-hosted the 7th Annual Mine Water Treatment Conference with WPCAMR, the Office of Surface Mining and the rest of the AMD Conference Planning Committee. The Conference was held in Pittsburgh, PA from August 14<sup>th</sup>-18<sup>th</sup> at the Sheraton Center at Station Square. The conference saw 260 attendees over the 4 days, 17 States represented at the Conference, 2 Countries, including Peru, and Canada, nearly 40 speakers including Congressman John Peterson-5<sup>th</sup> Congressional District, who reinforced his support for the AML Reauthorization and the approach that he is taken to get a national piece of legislation that will benefit PA and other Appalachian Coal States in finishing the job of reclaiming the high priority AML sites across the Eastern Appalachian Coal County.

Council for the Research and Reclamation of Disturbed Lands: The EPCAMR Program Staff co-hosted the 69th Annual Meeting of the CRRDL held in Karthaus, PA on June 1<sup>st</sup> and 2<sup>nd</sup>. There were 6 in depth presentations and a field trip to reclaimed coal mine lands in Clearfield County. The EPCAMR Regional Coordinator serves as the Secretary for the Council.

West Branch Susquehanna River Symposium: The EPCAMR Program Staff co-hosted the symposium with WPCAMR, Trout Unlimited and the rest of the West Branch Task Force in State College, PA on

May 5<sup>th</sup> and 6<sup>th</sup>. Set up the EPCAMR Exhibit, Co-sponsored the event, served as moderators and facilitators for some of the breakout sessions, and assisted with the setting up of the displays

2005 Bloomsburg Fair: The EPCAMR Program Staff set up an exhibit that highlighted the construction of the Audenreid AMD Passive Treatment System in the Catawissa Creek Watershed, exhibited the Oneida #1 Passive Treatment System Poster board, showcased a 3-D Model of the Audenreid AMD Passive Treatment System constructed by Jim Gotta, a member of the Catawissa Creek Restoration Association, and set up a clothes line down along the exhibit to hang the EPCAMR “Got AMD?” Tie Dye T-shirts. The EPCAMR Program Staff also set up an exhibit on our Resource Recovery efforts of Iron Oxide across the EPCAMR Region, complete with wood stains, recycled colored mulch, dried iron oxide in a bag, bandanas, and sample jars of the wet iron hydroxide sediments commonly found in AMD impacted streams. Nearly 60,000 people walked through the EPCAMR Exhibit in the County & State Building during the week and several people were encouraged to join local watershed groups.

Wyoming Valley Watershed Outreach Program: In November 2005, the EPCAMR Program welcomed Valerie Taylor, as our OSM/VISTA Watershed Development Coordinator, who relocated from Winchester, VA to work with EPCAMR and the Luzerne Conservation District on providing opportunities, programs, and educational events, as well as community development and historical preservation programs, in partnership with local governments, community groups, watershed organizations, conservation organizations, and youth from the Wyoming Valley School Districts. On one of more important community projects, she has established an extensive network of local government, public school district, private, and citizen-based historical and cultural organizations to create an industrial arts commemoration and community gardens project along Avondale Hill, Plymouth Township, in partnership with the Wilkes-Barre Vo-Tech School, St. David’s Society, Plymouth Historical Society, the Anthracite Living History Group, and others in honor of the 110 miners and boys who lost their lives to a fire in the mine on September 6, 1869, at the Avondale Mine Disaster.

EPCAMR also conducted at least 20 informative presentations on AMD/AML Issues to Schools and Colleges and approximately 5 AMD/AML focused watershed tours reaching thousands of students in 2005. EPCAMR was also awarded the 2005 Conservation Organization of the Year Award by the Pennsylvania Association of Environmental Professionals (PAEP) for its working relationship with the Luzerne Conservation District and other regional reclamation and environmental education partnerships across Northeastern PA.

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