

PENNSYLVANIA CONFERENCE ON ABANDONED MINE RECLAMATION
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The Big Picture

OVERVIEW OF THE GEOLOGY OF PENNSYLVANIA'S COAL REGIONS

Roger Hornberger — Professional Geologist,
Former District Mining Manager, Pottsville
District Mining Office, Pennsylvania Department of Environmental Protection

Daniel Koury — Watershed Manager, Pottsville
District Mining Office, Pennsylvania Department of Environmental Protection
www.depweb.state.pa.us

To address the environmental effects of coal mining in the Anthracite and Bituminous Coal Regions of Pennsylvania, it is important to understand the geology of these regions. There are significant differences and similarities between regional-scale physiography and local-scale topography, geologic structure, stratigraphy and hydrogeology. These factors all play a role determining the mining methods used to extract coal, defining abandoned mine land features such as drainage pollution, and evaluating water quality and quantity.

INNOVATIVE TREATMENT TECHNIQUES

Lenny Lichvar — Projects Manager, Somerset
County Conservation District and Stony Creek
River Improvement Project
www.scrip.pa-conservation.org/somccd.htm

Joe Schueck — Chief, Division of Acid Mine
Drainage, Bureau of Abandoned Mine Reclamation,
Pennsylvania Department of Environmental Protection
www.depweb.state.pa.us

Catch a glimpse of some of the new treatment system technologies! Their potential applications pioneer the abandoned mine drainage (AMD) recovery forefront.

FLOODPLAIN RESTORATION

Mark Gushall — President, LandStudies, Inc.
www.landstudies.com

Culm banks along streams contribute thousands of tons of sediment into our waterways. Potential mitigation wetlands for abandoned mine land (AML) projects and for flood plain protection areas exist with their removal. Find out more about these thriving projects.

HYDROGEOLOGY 101

John Foreman — Licensed Professional Geologist
and Owner, US Environmental Research Service

Learn about the relationship between ground water, mine pools and mining methods. Discover correlations between mine pool flow patterns and abandoned mine land (AML) problem areas.

THE ROLE OF WATERSHED GROUPS IN TODAY'S ENVIRONMENTAL MOVEMENT

Michael Hewitt — Watershed Outreach Coordinator,
Eastern Pennsylvania Coalition for Abandoned Mine Reclamation/
Luzerne Conservation District
www.OrangeWaterNetwork.org

Through a unique facilitation process of small group discussion, reflect on the status, victories, and challenges of this movement. Examine the goals and successes of your local organization and evaluate its place within this universal transformation.

Land

BROWNFIELD REDEVELOPMENT POTENTIAL

Mike Adam —Environmental Scientist, United States Environmental Protection Agency, Region III

Joe Nowak —Project Manager, Brownfields Office, United States Environmental Protection Agency, Region III

www.epa.gov

Consider options to restore value to abandoned mine lands (AML) complicated by the potential presence of contaminants, or brownfields. Reinvesting in these properties relieves development pressures on open land and decreases health threats to nearby residents. Your project may qualify for development money through the Environmental Protection Agency (EPA) Brownfields Grant Program.

WASTE COAL TO CFB ASH

James Panaro — General Manager, Robindale Energy Services, Inc.

A legacy of mining leaves behind ... new sources of energy? Make the connection between the waste coal industry and their efforts to expedite reclamation. See gob piles disappear from the landscape while providing electricity from circulating fluidized bed (CFB) plants. Ash produced from this process contributes to land restoration, and porch lights continue to welcome us home.

REMINING AS A TOOL TO ADDRESS AMD PROBLEMS

Michael W. Smith — District Mining Manager, Moshannon District Mining Office, Pennsylvania Department of Environmental Protection

*www.dep.state.pa.us/
dep/deputate/minres/Districts/homepage*

Remining can be an effective tool for abandoned mine drainage (AMD) abatement. This process includes the extraction of remaining coal reserves

from previously mined lands. Through remining, these areas are reclaimed to today's standards and polluted discharges can often be eliminated, or at least improved. Financed partially or entirely by coal removal, little or no public funds are required. Remining, through government financed construction contracts (GFCCs) and surface mining permits have resulted in very significant reclamation of abandoned mine lands in Pennsylvania and have resulted in substantial water quality improvements.

Water

ABANDONED MINE DRAINAGE (AMD) 101

Brent Means — Hydrologist, United States Department of the Interior, Office of Surface Mining (Friday)

www.osmre.gov

Bruce Golden — Regional Coordinator, Western Pennsylvania Coalition for Abandoned Mine Reclamation (Saturday)

www.amrclearinghouse.org

Enjoy AMD from a chemistry point of view! Learn about its origins and the chemical reactions responsible for its tremendous variability from one site to another. Apply these lessons to layout and design of treatment systems. Basic chemistry knowledge is helpful.

PASSIVE TREATMENT 101

Brent Means — Hydrologist, United States Department of the Interior, Office of Surface Mining

www.osmre.gov

Why aren't all passive treatment systems alike? How do you sustain them throughout their life-span? Explore various strategies and how they correspond to the chemistry of the discharge. AMD 101 or equivalent knowledge will be helpful.

OPERATIONS & MAINTENANCE FOR PASSIVE TREATMENT SYSTEMS

Bob Hedin — Chief Executive Officer, Hedin Environmental, Inc.
www.hedinenv.com

Bernard Hoffnar, PhD — Member, Six Mile Run Area Watershed Committee

Pamela Milavec — Environmental Services Section Chief, Bureau of Abandoned Mine Reclamation, Pennsylvania Department of Environmental Protection
www.depweb.state.pa.us

Ed Wytovich — President, Eastern Pennsylvania Coalition for Abandoned Mine Reclamation
www.OrangeWaterNetwork.org

Join in a discussion about the current state of operations and maintenance (O&M) for passive treatment systems. Discuss what is working, what is not, and what can improve the situation. Learn how government agencies and successful community organizations balance this. Hear how treatment system designs are being modified. Leading the discussion is a panel of volunteers, policy setters, and a consultant. Through stories of success and lessons learned, experience new ideas and fuel the debate with your questions.

TOTAL MAXIMUM DAILY LOAD (TMDL) 101

Beth Dillon — Water Quality Chemist, Susquehanna River Basin Commission
www.srbc.net

By now almost everyone has heard of a TMDL, but what does it really mean for your watershed? Join us to learn the history, the processes involved in TMDL development, and where these fit into the Pennsylvania watershed planning arena. TMDLs can be a useful tool for your watershed. This presentation will teach you how to read and extract information from a TMDL and how to leverage one for funding reclamation projects in your locality.

ACTIVE TREATMENT TECHNIQUES

Brent Means — Hydrologist, United States Department of the Interior, Office of Surface Mining
www.osmre.gov

One size doesn't fit all. Explore examples of active treatment systems, situations where they may be preferable to passive options, as well as their benefits and liabilities.

FLOW MEASUREMENT METHODS

Richard Beam — Licensed Professional Geologist, Bureau of Abandoned Mine Reclamation, Pennsylvania Department of Environmental Protection
www.depweb.state.pa.us

Water flow is an extremely important aspect in monitoring abandoned mine drainage (AMD). Learn about inexpensive and easy methods to monitor this and how to calculate and interpret results. Discover what method of flow measurement method fits your venture.

Resources

MONITORING PROGRAMS AND DATABASES

Sean Bartlett — Director of Information Technology, NMBS
www.newmilesofbluestream.com

Beth Dillon — Water Quality Chemist, Susquehanna River Basin Commission
www.srbc.net

Angie McCracken — Program Manager, Pennsylvania Organization for Watersheds and Rivers (POWR)
www.pawatersheds.org

There are many varied programs that monitor water quality in Pennsylvania. Join us to learn where you may be able to find pre-existing records for your watershed and how that may help your planning and assessment goals. Gain insight in choosing your data management solu-

tion. Topics will also include how to develop a monitoring plan and remediation undertaking.

WATERSHED RESOURCES

Jenny Becksted — Team Leader and Project Manager, Appalachian Coal Country Watershed Team, Office of Surface Mining/ AmeriCorps*VISTA
www.accwt.org

Hanna Wheeler — Coordinator, Eastern Coal Regional Roundtable, Office of Surface Mining/ AmeriCorps*VISTA
www.easterncoal.org

The Eastern Coal Regional Roundtable combats abandoned mine drainage (AMD) on a regional level by researching and compiling information for Coal Country watershed groups. The Appalachian Coal Country Watershed Team connects OSM/VISTA workers with these groups to identify AMD problems and solutions. Learn how you can find new funding sources, connect with other watershed groups, and host members of the Appalachian Coal Country Watershed Team at your organization.

RESOURCE RECOVERY

David Barnes — Manager, Advantage Grant Program, Small Business Ombudsman's Office, Pennsylvania Department of Environmental Protection

Daniel Sammarco, P.E. — Chief-Planning, Development & AMD Operations Unit, Bureau of Abandoned Mine Reclamation, Pennsylvania Department of Environmental Protection
www.depweb.state.pa.us

Discover new technologies allowing products of abandoned mines to become useful and about legislation encouraging these developments. Explore capital investment options through loan funds and small business benefits. Discuss programs available through the Small Business Ombudsman's Office to assist with your project.

LANDOWNER ISSUES

Darryl Audia — Real Estate Appraiser 2, Bureau of Abandoned Mine Reclamation, Pennsylvania Department of Environmental Protection
www.depweb.state.pa.us

Limited communications with landowners still many endeavors. Involving this group of participants during the early stages of project development will save untold headaches for everyone. Discuss potential situations in local projects that will require landowner partnerships while sharing unique arrangements.

INTERPRETING LAB REPORTS

Richard Beam — Licensed Professional Geologist, Bureau of Abandoned Mine Reclamation, Pennsylvania Department of Environmental Protection

Shirley Sholtis — Geologic Specialist, Bureau of Abandoned Mine Reclamation, Pennsylvania Department of Environmental Protection
www.depweb.state.pa.us

Inspect abbreviations, numbers, and units on lab reports. Interpret the results and use the most valuable components of these.

PERMITTING

Bob Cadwallader, P.E. — Senior Civil Engineer, Bureau of Watershed Management, Pennsylvania Department of Environmental Protection

Pamela Milavec — Environmental Services Section Chief, Bureau of Abandoned Mine Reclamation, Pennsylvania Department of Environmental Protection
www.depweb.state.pa.us

You can't build a treatment system without it! Learn about the process of permitting and discuss available varieties. Examine who administers and approves these documents.

Outreach

DEVELOPING COMMUNITY PARTNERSHIPS

Margaret Dunn — President, Stream Restoration, Inc.

www.streamrestorationinc.org

Does your organization enjoy strong community alliances? Are you looking for advice and wisdom about reinforcing existing partnerships or beginning new ones? Join this discussion to share questions and experiences.

WRITING FOR ENVIRONMENTAL PROFESSIONALS

Pete Geissler — Professor, Duquesne University
www.duq.edu

Writing for Environmental Professionals is presented in five parts:

1. Your motivation to improve your writing; better proposals and reports attract funding, people who write them attract attention and are promoted, and firms that submit them are more efficient and profitable. A few statistics support the premise.
2. What is “better?” Clear, concise, and purposeful are the keys.
3. Lifestyle and lifetime tips on how to write like a pro; empathy with your readers and how to develop it (the profile); and the ten-minute drill (the process).
4. A short proposal and why it failed.
5. Resources for further learning.

ACCEPTING THE CHALLENGE: DEVELOPING ENVIRONMENTAL EDUCATION OPPORTUNITIES

Wil Taylor — Program Coordinator, Jennings Environmental Education Center
www.dcnr.state.pa.us/stateparks/parks/jennings.aspx

Don't think your project is finished once your treatment system is constructed! Now it's time to share your success with the community and students of all ages. Jennings Environmental

Education Center has been using passive treatment systems to interpret mine drainage and coal history since 1988. Jennings has successfully developed educational programs, workshops and a variety of special events for audiences of all ages and backgrounds. In coordination with the Slippery Rock Watershed Coalition, Jennings has also produced a book about the subject entitled “Accepting the Challenge.” Participate in programs developed by Jennings to discover how your project can be a catalyst for education and community outreach.

Funding

IDENTIFYING DIVERSIFIED FUNDING RESOURCES

John Dawes — Administrator, Western Pennsylvania Watershed Program
www.wpawp.org

Uncover alternative ways to locate and to research new funding sources and converse about techniques for approaching these institutions. Also, consider other inventive methods of achieving sustainable financial support.

GRANT WRITING FUNDAMENTALS

Janie French — Pennsylvania State Coordinator, Canaan Valley Institute
www.canaanvi.org

This session will include an in depth overview of process, structure and skills needed for writing successful proposals. Grant writing isn't just about putting words on paper. Grant writing is a process that begins with developing a solid program. Participants will learn how to structure a request and how to follow through on making the request. The presentation will investigate factors, including appropriate support documentation, which can determine whether your program gets funded.

Once funding is received, participants will learn how to communicate with funders on project

status and accomplishments. The reporting to funders is a critical step to ensuring strong future relationships and is one that is often overlooked. The session will include an interactive exercise and informal peer to peer discussion.

Monitoring

CHEMISTRY ESSENTIALS

Bruce Golden — Regional Coordinator, Western Pennsylvania Coalition for Abandoned Mine Reclamation
www.amrclearinghouse.org

Participate in an overview of general chemistry principles necessary to understand abandoned mine drainage (AMD). This session is perfect for those who have little or no background in chemistry, or who would enjoy a refresher. Topics to be covered include: atoms, ions, molecules, states of matter, chemical reactions, concentration, and pH.

ABANDONED MINE DRAINAGE (AMD) 101

Please refer to *Water* (page 3).

PASSIVE TREATMENT 101

Please refer to *Water* (page 3).

AQUATIC MACROINVERTEBRATES AND STREAM ECOLOGY

Andy McAllister — Watershed Coordinator, Western Pennsylvania Coalition for Abandoned Mine Reclamation
www.amrclearinghouse.org

Understanding the macroinvertebrate fauna of your stream can provide valuable insight into a stream's current state of health and how it recovers from stressors. Stressors such as sedimentation, abandoned mine drainage (AMD), excessive nutrients, and acid rain can upset the delicate balance of life in a stream. Sampling techniques, basic macroinvertebrate taxonomy, the effects of

various types of pollution, and indicator organisms are just some of the topics to be touched on in a presentation designed for both the newcomer and those who would like to review.

Management

HIRING AND MANAGING A CONSULTANT

Ben Wright — Assistant Director, Freshwater Conservation Program, Western Pennsylvania Conservancy
www.paconserve.org

This presentation shares with the audience experiences of an environmental professional working with consultants. The goal is to help conservation organizations avoid some of the common mistakes made when dealing with contracts, expectations and overall project management. The session is also designed to be interactive allowing plenty of time for questions, answers and other perspectives.

OPERATIONS AND MAINTENANCE OF PASSIVE TREATMENT SYSTEMS

Please refer to *Water* (page 4).

PERMITTING

Please refer to *Resources* (page 5).

INVOLVING THE PUBLIC: WATERSHED ASSESSMENTS

Donna Carnahan — Water Pollution Biologist, Bureau of Watershed Management, Department of Environmental Protection
www.depweb.state.pa.us

More abandoned mine drainage (AMD) problems exist in Pennsylvania than funding sources available to remediate them. In order to spend the existing money wisely, remediation sites must be prioritized after completing a comprehensive restoration plan. A watershed assessment is the first crucial step in this process. This presenta-

tion will explain the steps involved in completing a watershed assessment and how volunteers can be utilized in the process. Attendees are encouraged to share their experiences and ideas throughout the presentation.

Watershed Tools

COMMUNICATION: SELLING YOUR PROJECT TO THE MEDIA AND THE PUBLIC

Tom Rathbun — Information Specialist, Communications Office, Pennsylvania Department of Environmental Protection
www.depweb.state.pa.us

Learn the basics of how to generate interest and support for your project with individuals and groups in your community, and how to become a valuable resource for your local media.

PROJECT PLANNING

Bob Hedin — Chief Executive Officer, Hedin Environmental, Inc.
www.hedinenv.com

Mark Killar — Watershed Manager, Freshwater Conservation Program, Western Pennsylvania Conservancy
www.paconserve.org

Planning and implementing an abandoned mine drainage (AMD) remediation project involves a myriad of considerations in order to successfully get it “on the ground.” This session will help identify the many issues that are involved in restoration projects including those that could bring an otherwise good project to a standstill. Discussions will include items to consider during pre-planning as well as those that should be addressed once funding is acquired. Avoid the pitfalls of poor planning and limit the amount of stress that usually comes with every AMD project by knowing what it takes to be successful before you start.

ROLE OF CONSERVATION DISTRICT WATERSHED SPECIALISTS

Tom Davidock — County Natural Resource Specialist, Schuylkill County Conservation District
www.co.schuylkill.pa.us/Offices/Conservation/conservation.asp

Jim Eckenrode — Watershed Specialist, Blair County Conservation District
www.blairconservationdistrict.org

Completing watershed restoration work can often be a challenging venture. One of the best ways to implement successful and sustainable projects is through the development of partnerships and relationships with other nonprofit, business and agency stakeholders. One key contact that can assist you with your efforts is the Watershed Specialist at your County Conservation District. Find out who your County Conservation District Watershed Specialist is, what they do, and how they can assist your organization with your watershed restoration projects.

WATERSHED RESOURCES

*Please refer to **Resources** (page 5).*