

You Live Here Too!

Together We WILL Make a Difference



The Moshannon Creek Watershed Coalition is an organization made up of local citizens and supported by the Clearfield and Centre County Conservation Districts and the Pennsylvania Department of Environmental Protection. The group's mission is to improve and maintain the social, recreational, economic and ecological quality of the Moshannon Creek for future generations. The group is addressing water quality issues, including the effects of acid mine drainage on Moshannon Creek.

www.moshannoncreek.org

**Working to
Get the
Red Out
of the
Red Moshannon**



AMD

Abandoned Mine Drainage

What Is It?



Abandoned Mine Drainage (AMD) is drainage flowing from, or caused by, deep mining, surface mining, or coal refuse piles. These sites were generally abandoned prior to present-day mining regulations with no responsible party. Drainage may be acidic or alkaline, with elevated levels of dissolved metals.

Where Does AMD Originate?

Surface Mining: past unregulated strip mining

Deep Mining: underground tunnels

Bore Holes: holes drilled to relieve pressure in deep mines

Refuse Piles: waste coal otherwise known as bony piles

What Are the Indicators of AMD?

1. Little or no evidence of aquatic life
2. Low pH or high metals concentrations in the stream
3. Stream bottom coating and/or
4. Stream discoloration
5. Colors that indicate metals are present:
 - Orange: evidence of iron
 - Grayish-white: evidence of aluminum
 - Black: evidence of manganese

How is AMD Treated?

1. **Active Treatment:** acidic discharges are neutralized by the addition of strong alkaline chemicals such as lime or ammonia.
2. **Passive Treatment:** naturally occurring chemical and biological reactions are established in a controlled environment.

AMD passes through one or several of these systems:

- Wetlands: including marshes, swamps, or bogs
- Open limestone channels: ditches lined with limestone sand
- Diversion wells: a holding tank filled with crushed lime
- Anoxic limestone drains: beds of buried limestone

The Goal of AMD Treatment

is to restore an aquatic system to its natural state. Monitoring the chemistry, aquatic life, and stream flow rates before and after restoration offers many opportunities for volunteers and environmental education programs. Stream monitoring establishes the necessary data to prioritize sites for clean-up.



A Success Story: Abandoned Mine Drainage (AMD) Treatment at Glass City

Outside of Philipsburg off Route 350 near Glass City are two separate areas that are treating AMD. These series of ponds and wetlands help to remove pollutants from a small stream before it flows into Cold Stream.

Before treatment the water quality was poor—the pH was low, indicating acidic water, and the iron content was high. The stream could not sustain life and was adversely affecting the fish and wildlife of Cold Stream.

The Pennsylvania Department of Environmental Protection (DEP) Bureau of Abandoned Mine Reclamation (BAMR) Cambria Office identified the sources of the AMD, designed the treatment systems, and had them constructed.

Settling ponds and wetlands treat the AMD. When the water flows through these ponds and wetlands, the contaminants are removed and the pH is raised before the water flows into Cold Stream. This type of treatment is just one of many that can be used to help clean up the polluted waters in our area.



Photos courtesy of the Pennsylvania Department of Environmental Protection Bureau of Abandoned Mine Reclamation Cambria Office



The water contaminated from the abandoned mine drainage is cleansed by flowing through a series of ponds and wetlands.

A special thanks to all of those helping us to clean up the Moshannon Creek watershed, especially the following: Centre County Conservation District, Clearfield County Conservation District, Rush Township, Decatur Township, Morris Township, Wood Duck Chapter of Trout Unlimited, and the Pennsylvania Department of Environmental Protection Bureau of Abandoned Mine Reclamation.

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Moshannon Creek Watershed Coalition Membership Application

Types: Individual (\$10) Family (\$15) Organization/Business (\$25) Lifetime (\$100)

Name: _____

Business: _____

Address: _____

City, State, Zip: _____

Phone/Fax: _____

Email: _____

Please indicate type of membership, fill out form, enclose correct amount, and mail to:

Moshannon Creek Watershed Coalition
PO Box 4
Osceola Mills, PA 16666



MCWC is a 501(c)(3) charitable organization, and contributions are tax exempt as allowed by law.

How You Can Help

1. Join

Although your membership fees do help us analyze samples, buy promotional materials (most of which have been donated so far), and create or obtain educational materials, having your name on our list of members helps us even more when we are trying to get state and federal monies to clean up the local environment.

One of the factors that funding agencies look at is the size of the membership. Organizations that have broader community support have a better chance of securing funds.

2. Adopt a Stream

Most of the streams in the watershed need to be assessed and sampled. We need people to walk these streams and to take notes and collect water samples. We can use this information to assess the quality of the water as well as to identify which streams can be restored. We need your help.

3. Talk to Us

Our members, in general, live in the watershed and know about parts of it. But, we need your input and suggestions on setting the priorities in the area. Which streams have fish and which don't? Which streams only have one or two acid discharges, that if treated would restore miles of stream? What areas would you like to see cleaned up?

4. Attend MCWC Meetings

Find out what we are doing throughout the entire Moshannon Creek watershed. Meetings are held the 4th Tuesday of every month at the Rush Township building in Philipsburg at 7:00 pm.

5. Join a Committee

We need people for all kinds of tasks. We need artists, scientists, carpenters, fishermen, bug collectors, writers, lawyers, accountants, people who like to talk, and people who like to do. As with any organization, there are numerous tasks which need to be done, and only so many people to do them.

6. Talk to Your Friends and Family

Talk to people about us. Even if you are not interested in helping us, someone you know might be very interested. Talk about us, please.



at the Cold Stream Dam Recreation Area

Come and join us for a FREE festival with water & stream oriented activities, as well as:

- Bluegrass music provided by Blue Shades (www.blueshadesmusic.com)
- Chili Cook-off
- Fun stuff for the kids