

# Acid Mine Drainage



*This Pennsylvania stream is affected by AMD. Yes, you're seeing orange water! Photo: PA-DOP.*

## What is Acid Mine Drainage?

Acid Mine Drainage (AMD) is a serious environmental and public health problem that results from abandoned coal mining sites. AMD occurs when pyrite is oxidized, releasing iron ions into the water. Other metals such as manganese and aluminum are also typically found in high concentration in AMD water. These ions lower the pH of the water. As pH drops far below the optimal zone (6.5-8.2), acidity of the water increases considerably. This acidity, especially at pH 5 or lower, kills aquatic life and makes fish and the river water unsafe for human consumption. AMD also deteriorates man-made concrete and metal structures and increases water treatment costs.

## Field Guide to AMD



Rusty reddish AMD in water, riverbanks, or river bottoms indicates iron presence. *Photo: Brookhaven Nat'l Lab.*



When water pH previously lower than 3 raises above 3, this orange results. Black deposits on the bank suggest manganese presence. *Photo: EPA.*



This whitish-colored AMD in water suggests high aluminum ion content. *Photo: Brookhaven Nat'l Lab.*

## What can you do?

### *Citizens:*

If you're interested in getting involved with AMD remediation efforts in your area, start by contacting one of the agencies or organization listed at right. You may also consider contacting your local, state, or federal elected officials to request funding for improving water quality in your watershed. Finally, volunteer with a local Roundtable or watershed group.

### *Organizations and Agencies:*

Agencies and organizations that work on AMD issues in Virginia include: Department of Conservation and Recreation, Department of Mines, Minerals, and Energy, US Office of Surface Mining, local Soil and Water Conservation Districts, and regional Roundtables. Contact one of the agencies or organizations listed above for more information.

## Contact Us

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