

Poor Mining Practices and Abandoned Mines



Barbara Ullian

HARD ROCK MINING

Active and abandoned hard rock mines contribute significantly to water quality problems in the United States. There are over 200,000 of these mines nationwide. At these sites, chemicals used in the mining process, such as cyanide, leach into the ground water. A more daunting problem is acid drainage caused when acid-bearing waste rocks, or tailings, are exposed to air and water. Such acid mine runoff is nearly impossible to stop. In some cases, reclamation may require water treatment in perpetuity.

Active hard rock mining continues to create more of the same problems for the future. According to the EPA, hard rock mining releases more toxins than any other U.S. industry. It also produces twice as much solid waste as all other U.S. industries and cities combined. These wastes poison our rivers, lakes and groundwater — an estimated 12,000 miles of rivers alone. More miles of river have been seriously contaminated by mining than are protected within the Wild and Scenic Rivers program. Currently, 67 mines are on the EPA's Superfund National Priority List (NPL). Of all NPL sites, mines are the largest and most costly to clean up.

COAL MINING

Acid drainage from abandoned coal mines is the chief water quality problem in the Appalachian States. Before 1977, federal law did not require the reclamation of mine lands. As a result, 1.1 million acres of abandoned coal mine lands have polluted more than 9,000 miles of streams with acid drainage. Abandoned coal mines continue to degrade the environment and pose health and safety risks, devastating some communities with illness and contamination of surface and ground water. The acid drainage from these abandoned mine lands is considered a "pre-existing discharge."

Active coal mining continues to threaten water quality, despite required discharge permits and federal reclamation law (RCRA, Chapter 10, p.185). Destructive methods of extracting coal today include strip mining, long wall underground mining and "mountaintop removal." Mountaintop removal requires dynamite to blast away 800-1,000 feet of a mountaintop which is then dumped into nearby valleys, burying streams.



Hard rock: Earthworks (www.mineralpolicy.org)

Coal: Appalachian Center for Environment and the Economy (www.appalachian-center.org)

Order River Network's Spring 2005 River Voices on mining and the Clean Water Act.

Using the Clean Water Act

- **NPDES** — Active and abandoned mines are required to have an NPDES permit, but implementation of this requirement varies significantly across the country. If you have a mine in your watershed, make sure it has a NPDES permit. (Chapter 2)
- **Water quality standards** — Identify the existing and designated uses downstream of mining operations. Which uses are the most sensitive to mining runoff? To protect those uses, identify water quality criteria for heavy metals, pH and any chemicals that were used or are still being used in mining operations, such as cyanide in gold leaching operations. Evaluate whether the criteria are stringent enough to existing and designated uses. (Chapter 1)
- **Antidegradation** — Before states can issue permits for mining operations that will degrade water quality, an antidegradation analysis must be performed and be subjected to public review. In this analysis, the state must examine whether all existing uses and all outstanding waters would be protected, and, to protect high quality waters, whether all alternatives have been considered with respect to their social and economic impact. (Chapter 1)
- **303(d)** — Do the water bodies downstream of mining areas in your watershed support uses and meet water quality criteria? If not, or if they are threatened by mining activity, make sure they are on the 303(d) list for the appropriate pollutants, problems and threats. (Chapter 3)
- **TMDL process** — Is there a TMDL scheduled or in progress in your watershed? Are mining discharges included as sources of the impairment? Have changes to mining permits and practices been included in the TMDL implementation plan? If not, encourage your agency to include them. (Chapter 3)
- **Section 319** — This section of the Clean Water Act authorizes money to the states for projects that address nonpoint source pollution. Ask your state water quality agency about how to apply for a 319 grant to address mining problems in your watershed. (Chapter 6)

Using other laws (Chapter 10)

- **SMCRA** (p. 189) — Does the coal mine in your watershed have a SMCRA permit? Does this permit provide for adequate reclamation of the land? Make sure new and existing permits meet water quality standards and that active mines comply with SMCRA's monitoring and inspection requirements. Funding may be available to clean up water bodies adversely affected by abandoned mines.
- **CERCLA** (p. 186) — Check to see whether the mine (operating or abandoned) in your watershed is a Superfund site or whether it qualifies as one. Specific actions for cleanup must be taken at Superfund sites; if the mine doesn't qualify for the Superfund list, but comes close, there still may be an opportunity to pressure for cleanup.
- **SDWA** (p. 183) — Is the surface water or groundwater downstream of active or abandoned mines used or designated for drinking? If so, it is likely that human health concerns will provide leverage to ensure that poor mining practices and abandoned mines are addressed. Identify the risks and talk to the agency in charge of developing the Source Water Assessment for your watershed. Be sure that the risks to drinking water sources associated with active and abandoned mines are included in the assessment and considered by your drinking water provider.
- **RCRA** (p. 185) — This law regulates hazardous and non-hazardous waste cleanup and disposal. If a mine does not qualify for a Superfund cleanup, it will still be regulated under RCRA.
- **Wild & Scenic Rivers Act** (p. 187) — Is any part of your watershed designated as a Wild and Scenic River? If so, associated protections could require better operation of working mines or the cleanup of abandoned mines.
- **ESA** (p. 186) — Are there threatened or endangered species in your watershed? If so, you have another tool for protecting against the damaging effects of polluted runoff from mines. The Endangered Species Act prohibits any activity that would result in harmful impacts to the species or its habitat.