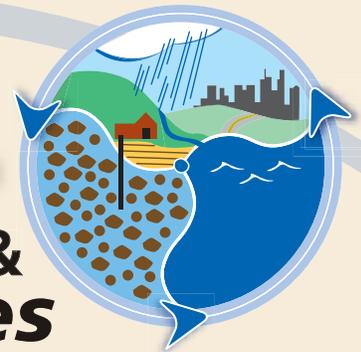


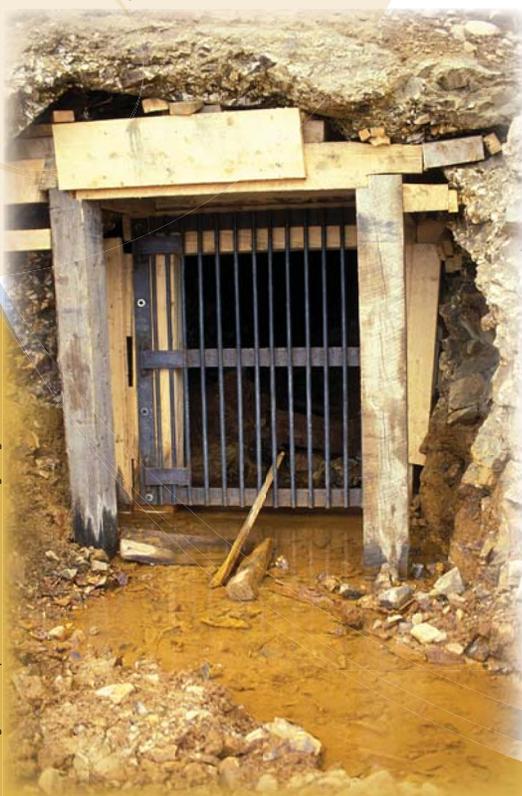
Ground Water & Abandoned Mines



Key Message

why abandoned mines matter to ground water...

Many abandoned coal mines and hardrock mines emit acid mine drainage. This takes place because the rocks associated with both types of mines often contain metal sulfides, such as pyrite. When the rock or coal deposits are excavated, the sulfides are exposed to water and oxygen, and react to form sulfuric acid. Many surface and underground abandoned mines, and their associated spoil and refuse piles, provide an ongoing source of acid mine drainage and toxic heavy metals that can have long-term devastating impacts on ground water, community water supplies, rivers, streams, and aquatic life.



Abandoned mines with associated acid mine drainage (AMD) discharges are among the greatest threats to ground and surface water quality in many areas of the United States. While mining is extremely important to our standard of living, energy production, and national security, it can disturb the land and alter the hydrologic balance—affecting the quality and quantity of ground and surface waters in the vicinity of mining operations. Most modern mines are now reclaimed during and after completion of mining activities; but prior to the enactment of environmental laws in the 1970s, most abandoned mines were not reclaimed when it was no longer profitable to retrieve the mineral or coal resources.

Abandoned mine sites, along with associated acidic discharges, must be remediated. To optimize remedial work, state officials should use all available funding sources, develop new funding sources, build partnerships, and remove obstacles that prevent third parties from undertaking activities that address ground water contamination problems. Future mining and reclamation activities must be planned with a critical eye to environmental and ecological circumstances, using information that incorporates adequate hydrological data, to prevent creation of new acidic discharges.

Such plans should evaluate the impacts or ramifications of mining before the fact and assist the industry in implementing mitigating measures. States should also adopt full-cost bonding requirements, or an equally effective alternative, to reduce the number of mine sites added to the abandoned mine lands inventory through bankruptcy.

Acid mine water discharge from historic underground workings (Fisher Creek, Montana).

Recommended Actions



To Congress:

- ▶ Enact Good Samaritan legislation to encourage third-party efforts to remediate AMD problems without the risk of penalties and liability.
- ▶ Work with interested parties to enact an Abandoned Hardrock Mines Reclamation Act that would attempt to address problems caused by abandoned hardrock mines. This would essentially be the hardrock equivalent of the Surface Mining Control and Reclamation Act (SMCRA).
- ▶ Continue to appropriate funds for remediation of contaminated abandoned-mine sites that pose an immediate threat to human health under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

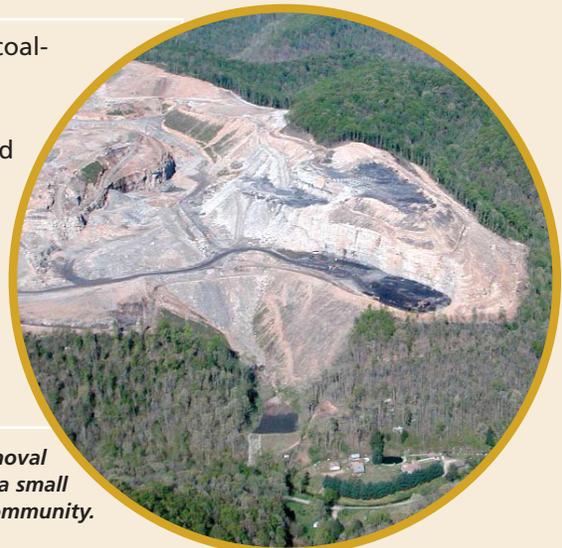
To Governors and State Legislatures:

- ▶ Increase the level of state commitment to address and resolve the problem of abandoned mines and AMD; recognize AMD and environmental issues as a use of funds under the Abandoned Mine Land Program; and establish funds dedicated for cleanup of abandoned mine sites that are not covered under SMCRA or CERCLA.

To State Agencies:

- ▶ Establish comprehensive inventories of abandoned mines and AMD-degraded aquifers, underground mine pools, and streams, and develop a strategy to address identified abandoned mines and AMD discharges on a priority basis.

- More than a million abandoned hardrock and coal-mine sites are scattered throughout the United States. The Mineral Policy Center evaluated state and federal inventory data in 1995 and concluded that there were more than 557,000 abandoned hardrock mines nationwide, the majority in the western states. While most states have not completed detailed inventories or environmental impact assessments, the Western Governors Association estimates that up to 20 percent of these mines pose a threat to the environment.



A mountaintop removal coal mine encroaches on a small southern West Virginia community.



Acid mine drainage has left a toxic legacy in this stream in the Tar Creek area of Oklahoma.

• After a series of short-term fee extensions, on December 9, 2006, the 109th Congress passed the Surface Mining Control and Reclamation Act Amendments as part of the Tax Relief and Health Care Act of 2006. The legislation reauthorizes the collection of the coal severance tax for 15 years and directs more money to states with the greatest number of abandoned mine land problems. The legislation also allows states to set aside up to 30 percent of their grant money for abatement of acid mine drainage problems. The 109th Congress is to be commended for its decisive action in addressing this significant issue.

Photo Credits:
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Bottom: Vivian Stockman / SouthWings / www.ohvec.org

This summary sheet is taken from the "Abandoned Mines" chapter of the Ground Water Protection Council's (GWPC) *Ground Water Report to the Nation: A Call to Action*. Contact GWPC for the full report.