



# Office of Surface Mining Reclamation and Enforcement

Created with the passage of the Surface Mining Control and Reclamation Act of 1977, the Office of Surface Mining Reclamation and Enforcement (OSM) is charged with a dual mission:

First, through its Regulation and Technology program, OSM seeks to ensure that active coal mines are operated in a manner that protects citizens and the environment during mining and ensures that the land is restored to beneficial use when mining operations are completed.

Second, through the Abandoned Mine Land program, OSM protects public health, safety and general welfare by correcting problems associated with past mining practices. These problems include underground fires, subsidence, landslides, highwalls, open shafts and acid mine drainage.

OSM's philosophy of shared commitment working with States and Indian Tribes to serve its primary customers - citizens of the coalfields. A large part of the OSM mission is carried out through grants to States and Tribes. The Regulation and Technology program provides grants to 24 primacy States and operates direct programs with three additional States and three Indian Tribes.

**Abandoned Mine Land Program:** Under the Surface Mining Control and Reclamation Act of 1977 (SMCRA), OSM collects excise taxes on coal production, and uses these monies to fund the reclamation and restoration of land and water resources adversely affected by past mining.

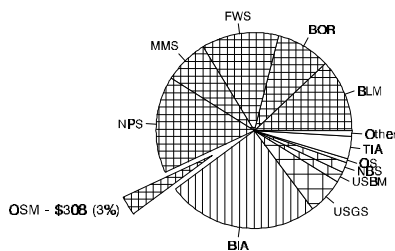
Through 1994, a total of \$3.8 billion has been collected and deposited into the Abandoned Mine Land (AML) Fund. Since 1977, approximately 79,000 acres of damaged lands have been funded or reclaimed. Over 50,000 acres of high priority problems and an additional 120,000 acres of known lower priority environmental problems remain unreclaimed.

Other important health, safety and general welfare problems that have been remedied by OSM include over 200 miles of clogged streams restored, 3,500 vertical openings and over 7,400 portals closed, and nearly 1.5 million feet of dangerous highwall eliminated. These figures compare with a remaining 442 miles of clogged streams, over 2,600 vertical openings, 5,600 portals and 4.2 million feet of dangerous highwall that still need to be reclaimed.

**Appalachian Clean Stream Initiative:** One of the most challenging problems OSM faces is acid mine drainage. Acid drainage is water containing acidity, iron, manganese, aluminum, and other metals. Acid mine drainage is caused by the exposing of coal and bedrock high in pyrite (iron-sulfide) to oxygen and moisture as a result of surface or underground mining operations. In sufficient quantity, iron hydroxide and sulfuric acid, a result of chemical and biological reactions, may eventually contaminate surface and ground water.

In some parts of Appalachia, acid drainage flowing from abandoned coal mines has caused pollution so severe that plant and animal life in many streams cannot survive. The Environmental Protection Agency has singled out acid drainage from abandoned coal mines as the number one water

FY 1994 OSM Budget Authority  
(\$ in millions)



Total DOI Budget Authority - \$9,663



*Before reclamation a former uranium mine near Gas Hills, Wyoming, was characterized by slumping highwalls, polluted water, and radioactive waste.*

quality problem in Appalachia. Many of these problems are the result of coal production that helped build America's strong industrial base and fueled our war efforts during World Wars I and II, many years ago.

Although stream pollution from acid drainage has been recognized as a major problem in the eastern United States for decades, the Appalachian Clean Streams Initiative, introduced in 1994, is the first coordinated effort with a primary focus of eliminating acid drainage. This initiative is a multi-agency effort involving federal, state, and local governments in cooperation with citizens, corporations, and universities to clean up acid mine drainage in Appalachia.

The most common method used to eliminate acid drainage from abandoned underground mines is chemical treatment, which is expensive and requires constant maintenance.



*Reclamation of this 200-acre steep-slope contour mine in eastern Kentucky shows the purpose of the Surface Mining Control and Reclamation Act.*

A second treatment method, still experimental but much less expensive, is called biological control. This new technology, developed by the U.S. Bureau of Mines, diverts the flow of acid drainage through artificial or man-made wetlands. Biological processes remove excess acidity and iron from the acid drainage before it leaves the wetlands. Biological treatment is relatively inexpensive to construct and has been very successful on some small discharges of acid drainage. Another experimental method that shows promise uses alkaline waste products from co-generation power plants to fill underground mines. Filling the mine voids with this material should eliminate future production of acid drainage.

Acid drainage has had a devastating impact on people's lives and the vitality of the local economies. The benefits of cleaning up the rivers and streams can be clearly observed. One goal of the clean-up of acid drainage is the benefit for local economies arising from the tourism and outdoor recreational activities -- hiking, camping, fishing, and boating -- brought back by clean streams.