

SECTION 9: RESOURCE EXTRACTION

9.1. Current Programs and Capacity

In Virginia, resource extraction is broken into three categories: coal mining, gas and oil, and mineral mining. Each of these can contribute pollutants to water resources, such as heavy metals, low pH, and total suspended solids.

Erosion and sedimentation impacts from an active mining site can have detrimental impacts on local streams and the Chesapeake Bay. Abandoned mine sites can contribute sediment, phosphorus and other pollutants to nearby streams. In Virginia, coal mineral mining activities are covered by the VPDES Program, with permits issued by DMME. Mineral mining activities, including the direct discharge of process water and mine pit dewatering, are covered by the VPDES General Permit for Non-metallic Mining (VR 680-14-21) issued by the Department of Environmental Quality. The DMME Divisions of Mined Land Reclamation (DMLR), Mineral Mining (DMM) and Gas and Oil (DGO) deal directly with nonpoint source pollution by conducting reclamation activities and controlling runoff from land disturbance associated with the specific resource extraction method.

While Virginia's coal producing region lies largely outside the Chesapeake Bay watershed, there are locations historically mined near Richmond and Farmville and some in the Shenandoah Valley that might present reclamation opportunities. Mining activities in the bay watershed include sand and gravel operations, quarries (limestone, etc.), and gas and oil drilling operations (potentially Marcellus Shale in Shenandoah) that may be of concern and may present opportunities for improved management techniques to reduce site runoff and sediment discharges to streams. There may also be opportunities for reclamation of historic sites where the resource extraction activity was completed before reclamation and closure laws were enacted.

Operators of active mines and well sites are required by state law to implement management practices that control the release of sediment from the site and meet current state and federal effluent standards for point source discharges.

The primary law regulating the production of non-fuel minerals is the Mining Mineral Law. The primary law regulating the gas and oil industry is the Virginia Gas and Oil Act. Virginia's Orphaned Land Program was enacted in 1978 to alleviate the environmental and public safety hazards associated with abandoned mineral mine sites. It is the primary authority for orphaned mineral mines.

Currently, DMME staffing for the non-coal mining activities includes 11 inspectors, two mineral mining supervisors, 1 permit engineer, 2 Orphaned Land program staff, one of which is the Nonpoint Source Pollution Coordinator employed through a 319 grant from EPA, along with a training supervisor and several support staff. Should the Marcellus Shale project move forward, a staff person from DGO will be needed to cover inspections for erosion and sediment control of the impacted area. The number of active permits in the Chesapeake Bay Watershed is approximately 320.

Code reference

Chapter 16 of Title 45.1, Chapter 22.1 of Title 45.1 Code of Virginia

9.2. Accounting for Growth

With an increase in population growth and the need for an increased number of roads and building materials, it is expected that the demand on quarries and sand and gravel mining would also increase to support that growth. An increase in permits for the management of water discharges would be expected, as would the implementation of management practices that control the release of sediment from the site. Current mines are regulated under Virginia law ensuring that contemporaneous reclamation takes place and best management practices are followed during mining. Growth in the oil/gas and coal extraction industries is driven primarily by regional, national and international markets, including energy and steel, so they do not respond solely to local market forces. An increase in loads could occur from these activities, though it is expected that permitting compliance efforts of DMME and DEQ will reduce that possibility.

9.3. Gap Analysis

While there is no specific target for this program area, it is expected that reductions in sediment from abandoned mine sites would benefit the overall reductions needed in sediment.

9.4. Strategy to Fill Gaps

DMME employs a full time staff person to manage the identification and reclamation of abandoned mineral mines in high priority watersheds through a grant administered by DCR from EPA's 319 program.

Currently, there exists a loss of funding for the Orphaned Land Program, which addresses the reclamation of abandoned mineral sites across the state. To further address the reclamation of abandoned mine sites, considerable and steady funding is needed throughout Virginia's Bay watershed.

The VPDES General Permit, which is currently in the process of being reissued, will include best management practices for mining areas where TMDL Implementation Plans have been completed.

9.5. Contingencies

Increasing the number of inspectors, reclamation sites, and stream restorations may contribute to additional sediment reductions across the Bay watershed.

9.6. Tracking and Reporting Protocols

Tracking the compliance of VPDES general permit holders is currently done by DEQ, while DMME tracks compliance with their own permit holders. Periodically, the facilities are inspected to ensure compliance with their permit conditions. Facilities must report on a regular basis, and

show their schedules for reclamation of disturbed sites. As resources are available, an expansion in the reclamation of older abandoned sites could be pursued to include stream restoration and site stabilization. These reclamation opportunities and their progress would be tracked by DMME and the progress supplied for each bay TMDL milestone reporting. Currently, DMME is developing an inventory of abandoned mines and reclamation work is being driven by local TMDL's.