

COAL MINING AND THE CLEAN WATER ACT: Why regulated coal mines still pollute West Virginia's streams

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**West Virginia
Rivers Coalition**

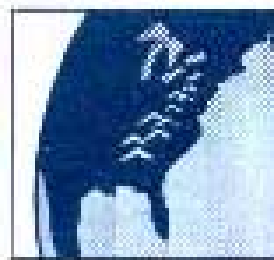
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ABBREVIATIONS

AMD	acid mine drainage
CFR	Code of Federal Regulation
CSR	Code of State Rules
CWA	Clean Water Act
DEP	West Virginia Department of Environmental Protection
EQB	West Virginia Environmental Quality Board
Fe	iron
L	liter
mg	milligram
Mn	manganese
MTR/VF	mountaintop removal/valley fill
NPDES	National Pollutant Discharge Elimination System
ppm	parts per million
SS	settleable solids
TBEL	technology-based effluent limitation
TMDL	total maximum daily load
TSS	total suspended solids
ug	microgram
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
WLA	wasteload allocation
WQBEL	water quality-based effluent limitation

1. INTRODUCTION

The West Virginia Department of Environmental Protection permits about 12,000 coal-related discharges across the state. However, the essential requirements of these Clean Water Act permits—limits on the discharge of pollutants into streams as well as monitoring of these discharges at important flows—are not consistently applied to the coal mining industry. Because of these failures, West Virginia’s waters are degraded by coal mining operations, and agencies and the public often have no idea what amounts or types of pollutants are actually discharged.

Permitted coal mining operations, as well as older abandoned mines, discharge acid mine drainage, sediment, and other toxic pollutants, which together impair more than 2,000 miles of West Virginia’s rivers and streams. Discharges from coal operations differ from those from most other industries because flows and pollutant concentrations often depend on rainfall. This difference is at the heart of several federal and state regulations, policies, and practices that cause coal-related permits to be weaker than those issued for other industries.

Based on a review of relevant regulations and an assessment of a set of randomly selected permits, this report documents both recent positive changes and persistent problems with coal permitting practices in West Virginia. The report also provides recommendations for several agencies that would bring these practices into compliance with Clean Water Act requirements, and for citizens who are concerned about the industry’s effects on water quality.

2. PERMITS ARE WEAK

Permits limit the amount of pollutants that can be discharged, and are supposed to ensure that water quality standards in receiving streams are met at all times. Because of several deficiencies in permitting practices, permits for coal mine discharges do not always do so.

Lenient federal guidelines allow unlimited, unmonitored pollution

The U.S. Environmental Protection Agency has allowed the coal industry to operate under weak federal permitting guidelines. These guidelines were established based on the use of sediment ponds to control pollutant discharges. Since the 1980s, the agency recognized the limited treatment efficacy of ponds during precipitation. To address this concern, it included a complex series of exemptions, called alternative storm limitations, in its guidelines. The result was this: While many types of surface mines do not discharge during dry weather when the most stringent limits are in effect, those same mines were made exempt when it rains, the very times when discharges are the greatest. These exemptions therefore allow unlimited amounts of pollution to be discharged by nearly every kind of coal mine.

The alternative storm limitations have a second important implication: They allow permittees to forego monitoring of exempt pollutants during rainfall events. For that reason, mining companies, regulatory agencies, and the public do not know what is actually being discharged at exactly the times pollution discharges are the highest.

Permits do not limit toxic metals such as selenium

Some mines contain toxic metals in their discharges; however, toxic metals are excluded from regulation in federal permitting guidelines for the coal industry. The U.S. Environmental Protection Agency opted to use iron and manganese as indicator parameters that would reflect the overall efficacy of treatment. If iron

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and manganese levels were low when monitored, it was assumed that levels of other toxic metals would be low, too. While this system makes monitoring more efficient, it adds uncertainty because iron and manganese are unlimited and unmonitored during rainfall for many types of coal mining operations. The agency also noted that some toxic metals could be found in significant amounts at some mines and urged state permitting authorities to consider imposing limitations in those cases. However, in West Virginia, the Department of Environmental Protection has failed to adequately evaluate coal discharges for toxic metals or issue permits that restrict their discharge.

For example, data from the recent mountaintop removal mining environmental impact study suggest that violations of the selenium water quality criterion are associated with some mountaintop removal coal mining operations, and that selenium limitations are warranted. Nevertheless, the Department of Environmental Protection still issues permits without selenium limits for coal mines that disturb high selenium soils.

Water quality standards are weaker than federal guidelines

All permits must be written to meet water quality standards in receiving streams. Numeric standards are in place for pH as well as pollutants that are typically discharged from coal operations: turbidity as a measure of sediment, iron, manganese, and aluminum. However, the West Virginia standards for these pollutants are weaker than federal guidelines. Turbidity is perhaps the most egregious example, because the standard explicitly exempts coal mining operations unless they discharge to trout streams. There is no scientific justification for this exemption.

As a result of these deficiencies, the Department of Environmental Protection is using weak standards, and even the most stringent permits based on these water quality standards will not protect existing and designated uses.

Permits do not always protect water quality

While federal guidelines serve as a starting point for permit development, regulations require state agencies to write more stringent permits when necessary in order to protect stream uses and comply with water quality standards. Unfortunately, the Department of Environmental Protection has failed to carry out this mandate. Although the agency's practices are improving over time, permit writers still use minimum federal permitting guidelines—along with alternative storm limitations—in cases where stricter permits are needed to protect receiving streams. In addition, less stringent permits are sometimes issued because the agency incorrectly assumes a receiving water is not impaired.

The Department of Environmental Protection also has failed to adequately protect streams that are already impaired, by ignoring a federal prohibition against new discharges that cause or contribute to impairment. Existing permits have been reissued with lenient limits despite the fact that they too are causing or contributing to impairments. In addition, in streams where cleanup plans have been developed, the agency has failed to implement the plans and issue protective permits as required.

In unimpaired waters, permit limits must be calculated, at a minimum, to maintain water quality to meet existing and designated uses and to comply with antidegradation requirements. The Department of Environmental Protection's practices for establishing permit limits in unimpaired waters have evolved and improved over the last 25 years, but they still do not comply with the Clean Water Act.

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Streams are used for waste assimilation and treatment

Federal and state regulations clearly ban waste transport and waste assimilation as primary stream uses. However, the Department of Environmental Protection commonly permits mining operations to build sediment ponds directly in streambeds and below valley fills, transforming streams from free-flowing, biologically rich habitats into waste assimilation and treatment systems. About one-third of the West Virginia's coal permits have been issued for these instream ponds; all of these permits are illegal and undermine the primary goals of the Clean Water Act.

Trout streams are not fully protected

The Clean Water Act requires permits to be written to protect both existing stream uses and those uses designated by the state. In West Virginia, a designated use for trout waters provides special protection from excess sediment, heat, and chemical pollutants in order to preserve trout habitat, assure reproduction, and prevent mortality.

While this scheme should protect trout streams from pollution, it does not. When the Department of Environmental Protection writes permits for coal operations, it recognizes only those trout streams that are currently inventoried by the West Virginia Division of Natural Resources as native brook trout habitat, thereby ignoring some trout streams designated by the state, and other streams with existing trout uses. The agency, in fact, is removing uses solely at its discretion, counter to a clear Clean Water Act mandate that use removals must follow strict protocols called use attainability analyses. The agency's policy not only severely limits protection for trout habitat, but also excludes the public and other agencies from a crucial decision-making process required for removing uses.

A second flaw in the Department of Environmental Protection's permitting practices undermines protections for trout streams as well. The state water quality criterion for turbidity exempts coal mining operations. Although this exemption does not apply in trout streams, coal mining operations that discharge to trout waters are still routinely assigned minimum permit limits for sediment, including alternative storm limitations. The agency requires no special efforts to control sediment discharges to trout waters, despite the fact that coal mining operations are legally required to prevent sedimentation in these sensitive streams.

3. PERMIT MONITORING IS INSUFFICIENT

All permits require self-monitoring to ensure that permit limits are met. End-of-pipe monitoring is used to compare actual discharges with permit limits. In addition, instream monitoring is often used to ensure that permitted discharges are not causing violations of water quality standards in receiving streams. Current permitting practices are insufficient in both cases.

End-of-pipe monitoring is not representative

To be useful in ensuring compliance, monitoring data must provide an accurate picture of what is being discharged. Current practices, however, do not guarantee that these data are representative. The Department of Environmental Protection generally requires routine end-of-pipe monitoring only twice a month, and permittees need not monitor parameters that are granted rainfall exemptions at the time that samples are taken. The agency does not require additional monitoring during storm events; therefore, data about peak load discharges of important pollutants do not exist.

For permits assigned more stringent limits, the agency generally requires more thorough monitoring because the limits are in force even when it rains. Thus, some information on peak discharges should be

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obtained as random twice-a-month sampling theoretically coincides with at least some storm events. Still, these permits do not require monitoring during storms. Without regularly collected data that are representative of discharges over all precipitation intensities, it is difficult if not impossible to assess the impacts of coal mines on our rivers and streams.

The paucity of accurate monitoring data is compounded by another policy. If an outlet does not discharge on the day that samples are collected, permittees record “no flow” on their monitoring report, whether or not “no flow” is truly representative of the discharges over the entire month. While this practice appears to violate the federal requirement for representative monitoring, it is sanctioned by the agency.

Instream monitoring is not performed when it counts

The episodic nature of precipitation-induced pollutant discharges makes it unlikely that instream data collection, without a focused storm sampling component, can accurately assess pollutant loads. While coal operations are often required to collect instream data and the Department of Environmental Protection occasionally performs its own instream sampling, the agency has performed no focused storm sampling downstream from coal mines. Even the recent mountaintop removal environmental impact study did not include a storm sampling focus in its study of water quality impacts in receiving streams. The bottom line: There are little or no publicly available data that accurately assess the impacts from active coal mines to receiving streams, and there is no way to determine whether discharges cause or contribute to violations of water quality standards or if stream uses are protected.

4. CONCLUSIONS AND RECOMMENDATIONS

Many of the Department of Environmental Protection’s permitting practices do not conform to those required by the Clean Water Act, and therefore do not protect our rivers and streams from pollution from coal mines. But the Department of Environmental Protection does not operate in a vacuum; the West Virginia Environmental Quality Board and the U.S. Environmental Protection Agency also share the responsibility to ensure that coal mining operations are held to minimum federal standards. If these agencies were to simply follow the law, permitted discharges—and West Virginia’s rivers and streams—would be cleaner. There are many reasons why weak permits continue to be written. Improvements must be made.

The Department of Environmental Protection

This report documents several deficient permitting practices at the Department of Environmental Protection. The agency fails to write permits that restrict the discharge of toxic metals like selenium, even when mining is likely to cause instream violations. Permit writers do not routinely assess the reasonable potential for permitted discharges to cause or contribute to violations of water quality standards. Clean Water Act mandates are ignored, such as the prohibition against permitting new loads into impaired waters before river cleanup plans are developed. In addition, the agency has not followed through on its commitment to implement these cleanup plans.

The Department of Environmental Protection’s new antidegradation guidance further weakens existing procedures and will make antidegradation review a rubber stamp for dischargers. Also, counter to the fundamental goals of the Clean Water Act, the agency sanctions the use of streams for waste disposal by issuing permits for instream sediment ponds, and fails to recognize and protect all existing and designated trout streams.

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Because of Department of Environmental Protection policies, permittees' monitoring requirements are inadequate to characterize the discharges or impacts to receiving streams, especially when it rains. No focused instream storm studies have been conducted by the agency to fully characterize the impacts of mining discharges on any of the rivers or streams in coal-producing areas of West Virginia.

The Department of Environmental Protection must, at a minimum, take several steps to ensure that coal mining permits protect water quality as required by federal law:

- Strengthen permits. Issue permits without alternative storm limitations, assign appropriate discharge limits for toxic metals, and do not issue new permits for discharges into impaired streams until cleanup plans have been developed that include allocations for new permits. Issue strict permits when necessary to protect receiving streams. Stop permitting new discharges from instream treatment ponds and treatment systems below valley fills, and phase out existing permits for these discharges. Finally, ensure that permits protect all trout streams.
- Improve monitoring. Ensure that enough recent data are available to determine whether receiving streams are impaired for all relevant pollutants. Require more frequent monitoring of discharges, including daily monitoring for large mines. Require monitoring during storms for all permits and for all relevant parameters, even if those parameters are not limited at the time of the sampling. Require truly representative monitoring. Require instream storm sampling below outfalls as part of routine instream monitoring conditions in permits. Collect storm data below coal mining discharge points.
- In addition, consider enforcement actions when violations of the selenium criterion can be directly linked to a permitted discharge. Implement antidegradation in a manner that is consistent with federal law. And do not write river cleanup plans or assign load reductions without an accurate assessment of contributions from active mines.

The Environmental Quality Board

The Environmental Quality Board plays a key role in setting water quality standards, the underpinning of all permitting decisions. However, standards for coal-related parameters do not meet federal guidance or protect stream uses. The board should:

- Ensure that all water quality criteria comply with federal guidance or give sound scientific reasons why other criteria are valid for West Virginia.

The U.S. Environmental Protection Agency

Federal regulations for coal mines exempt most coal mining operations from meaningful discharge limits when it rains, and are based on the U.S. Environmental Protection Agency's lenient interpretation of the Clean Water Act. To promote better permitting practices in West Virginia, the agency should:

- Review federal effluent guidelines for coal mining and remove the alternative storm limitations.
- Disapprove West Virginia's pH, turbidity, iron, manganese, and aluminum standards, and promulgate new standards that are consistent with federal guidance.

Citizens' groups

About 90 grassroots watershed organizations are active across West Virginia; many of these groups are dealing with pollution from coal mining. These citizens have a major stake in improving permitting practices so that permits for coal mining operations truly protect local rivers and streams. Citizens' groups can take the following actions:

- Gather background information by identifying all coal mine permits, known or listed trout streams, and streams impaired by acid mine drainage in the watershed. Get copies of all local,

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completed acid mine drainage cleanup plans. Determine if coal seams are likely to be high in selenium.

- Collect detailed information. Examine permits to ensure that discharge limits protect the uses of local streams. Collect permit monitoring data and compare it with permit limits. Ensure that permit violations are enforced. Also, gather instream data to check that dischargers are not causing violations of water quality standards, and make sure to include data collected when it rains. Periodically collect macroinvertebrate data to help evaluate the biological integrity of streams. Track precipitation events to compare with the information submitted by permittees.
- Participate in the permitting process. Comment on new, reissued, and modified local permits.

Summary

While the Department of Environmental Protection has committed to some improvements in the way coal permits will be written in the future, permits still will not comply with the mandates of the Clean Water Act. It is too early to tell if improvements will actually decrease the amount of pollution coming from coal mining operations.

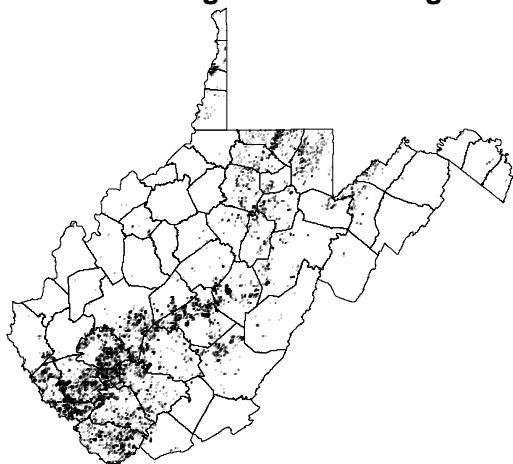
Truly protective permits will only be written when adequate monitoring fully characterizes mining discharges and their impacts to receiving streams. Protective permits will also only be written when the Department of Environmental Protection, Environmental Quality Board, and U.S. Environmental Protection Agency improve state water quality criteria, antidegradation implementation procedures, and guidelines for issuing effluent limitations to ensure that coal mining operations are held to Clean Water Act standards.

Changes in permitting policies at the Department of Environmental Protection to conform to existing laws are also necessary to ensure that the coal mining industry is held accountable for its water pollution just as every other industry in the country. Improvements will take political will, commitment, and leadership.

1. INTRODUCTION

The West Virginia Department of Environmental Protection (DEP) permits about 12,000 coal-related discharges across the state, as shown in Figure 1. However, the essential requirements of these National Pollutant Discharge Elimination System (NPDES) permits—limits on the discharge of pollutants into streams as well as monitoring of these discharges at important flows—are not consistently applied to the coal mining industry. Because of these failures, West Virginia’s waters are degraded by coal mining operations, and agencies and the public often have no idea what amounts or types of pollutants are actually discharged.

Figure 1: West Virginia coal mining discharges covered by NPDES permits



Source: DEP, 2003.

Discharges from coal operations differ from those from most other industries, most fundamentally because flows and pollutant concentrations often depend on rainfall. The variability of the quantity and quality of discharges from coal mines was recognized early, as the U.S. Environmental Protection Agency (USEPA) first developed guidelines for writing coal NPDES permits (USEPA, 1982). This variation is at the heart of several federal and state regulations, policies, and practices that cause coal-related permits to be weaker than those issued for other industries.

Based on a review of relevant regulations and an assessment of a set of randomly selected permits, this report documents both recent positive changes and persistent problems with coal NPDES permitting practices in West Virginia. The report provides recommendations for several agencies that would bring these practices into compliance with Clean Water Act (CWA) requirements, and for citizens who are concerned about the industry’s effects on water quality.

While the routine discharges of pollutants to our waters from mining operations do not receive much attention, they are vitally important to the health of West Virginia’s rivers and streams and are the focus of this report. In contrast, blackwater discharges, the burying of streams, and flooding related to coal mining in West Virginia have received significant media and legal attention over the last few years. Much of this attention has focused on mountaintop removal operations, in which the tops of mountains are blasted apart and dumped into nearby hollows, burying streams under massive valley fills. The significant legal and environmental issues surrounding these operations are important; however, they are not NPDES permitting issues and are not addressed in this report.

All types of active coal mining operations—including surface mines, deep mines, preparation plants, and refuse disposal areas—operate under NPDES permits that regulate the amount of pollutants that may be discharged to rivers and streams.¹ At first glance it may seem that pollution from active sites is insignificant because they have received permits, but further investigation shows that this is not necessarily the case. As detailed in this report, weak permitting practices, weak or nonexistent permit limits when discharges are most likely to occur, and unrepresentative monitoring all suggest that pollutant discharges are not effectively controlled and that permitting agencies—and the public—do not know the extent of active operations’ contributions to coal mine pollution in our rivers and streams.

“At first glance it may seem that pollution from active sites is insignificant because they have received permits, but further investigation shows that this is not necessarily the case.”

This report begins with a brief description of different types of coal mining operations and the pollutants that they generate, as well as the regulatory context within which NPDES permitting decisions are made.

Section 2 then describes why weak NPDES permits are issued: Lenient federal guidelines allow unlimited and unmonitored pollution, permits do not limit critical toxic metals, state water quality standards do not meet federal requirements, state policies do not require all coal-related permits to protect water quality, permits illegally allow the use of streams for waste treatment, and permits do not protect trout waters.

Insufficient permit monitoring, documented in Section 3, makes it impossible to know what is actually being discharged from these operations. This lack of information undermines the integrity of the permitting system and other processes such as the determination of stream impairment, the development of total maximum daily load (TMDL) river cleanup plans, and the implementation of the state’s antidegradation policy.

After presenting conclusions, Section 4 makes recommendations for citizens interested in the effects of coal mining on local watersheds. Recommendations are also offered that would bring the DEP, the West Virginia Environmental Quality Board (EQB), and the USEPA into compliance with the Clean Water Act, in order to adequately protect West Virginia’s rivers and streams.

1.1 Pollution from coal mining

Coal mining operations, active and inactive, impair West Virginia’s rivers with acid mine drainage (AMD), sediment, and other toxic pollutants. These pollutants are generated when earth and minerals disturbed during coal extraction come in contact with the atmosphere, rainwater, runoff, and groundwater. Polluted water is typically treated by collecting contaminated runoff or groundwater in earthen sediment ponds at mining sites. These ponds are designed to slow the rate of discharge, provide time for additional water treatment, if needed, and allow for sediment and other pollutants to settle to the bottom (USEPA, 1982). Most mines have multiple ponds and discharge points, or outlets; some large mines have more than 50.

In the case of underground mines, ground and surface water often seep into deep mine workings and are then pumped out and discharged to facilitate the retrieval of coal.² Discharge flows are typically controlled by pumps, while discharge quality primarily depends on the makeup of the coal seam and the surrounding rock, or overburden. In some instances, underground pumped discharges from non-acid-producing seams are relatively clean and can be directly discharged to receiving streams. In most cases,

¹ NPDES permits are issued for point source discharges: those that release pollutants from a pipe or man-made conveyance.

² In some cases, water is pumped into the mine to accommodate dust suppression.

however, underground mine discharges contain pollutants and are directed to sediment ponds, where they are commingled with surface water and are therefore subject to rules weakened by exemptions when it rains, as described in Section 2.1.

The relative control of most underground mine discharges stands in contrast to surface mine discharges, which depend almost entirely on recent rainfall. Ditches and drainage-ways typically direct surface mine runoff to sediment ponds, although in some cases ditches directly discharge to nearby streams. Ditches also direct surface runoff from surrounding areas away from mining sites, to minimize the volume of water collected in sediment ponds. Sediment ponds must be constructed and maintained to meet state and federal capacity requirements³ and are located in or adjacent to streams.

“The relative control of most underground mine discharges stands in contrast to surface mine discharges, which depend almost entirely on recent rainfall.”

Coal preparation plants clean mined coal for commercial use. As much as half of the coal mined can end up as waste, composed of coarse rock and fine-grained coal and mineral matter (NRC, 2002). This waste is disposed of in refuse piles or discharged to slurry impoundments, which hold a slurry of waste coal and water from the cleaning process. Water is either removed from impoundments to be reused in preparation plants or discharged to sediment ponds and then to receiving streams. Slurry impoundment failures have caused devastating environmental disasters, such as the impoundment breakthrough near Inez, Kentucky in 2000 (NRC, 2002). This report, however, focuses on routine permitted discharges from these and other mining facilities.

Acid mine drainage

AMD is one of the state’s most significant water quality problems. Although large amounts of AMD flow from bond forfeiture sites and abandoned mine lands,⁴ these pollutants are also discharged from active, permitted sites.

“AMD is one of the state’s most significant water quality problems.”

More than 2,000 miles of rivers and streams appear on West Virginia’s 1998 303(d) list of impaired waters for AMD, representing 70 percent of all listings (DEP, 1998a).⁵ AMD pollution includes metals—typically aluminum, iron, and manganese—which add acidity to receiving streams, and which have their own harmful effects on aquatic life or human health. The acidity contributed by these metals often causes receiving streams to violate the pH water quality criterion, thereby making it difficult or impossible for aquatic life to survive. A further environmental harm from AMD occurs when iron coats stream beds and makes it difficult or impossible for insects and fish to survive.

Sediment

Coal mines also discharge significant amounts of sediment (USEPA, 1982). Excess sediment can harm aquatic life, especially trout. Sediment often carries with it nutrients and metals, which can further impair water quality. River water with increased sediment is more expensive to treat for human consumption and can inhibit recreational uses.

³ Federal requirements are at 30 CFR 816.46 and state requirements are at 38 CSR 2-4.7.b.

⁴ Bond forfeiture sites and abandoned mine lands typically do not operate under NPDES permits; therefore, they are not considered in this report.

⁵ According to CWA regulations, DEP must compile its 303(d) list of impaired waters every two years. This list includes all waters that do not meet water quality standards. Because of a temporary change in the regulations, DEP did not release a list in 2000. AMD-impaired segments include 15 from Table A of the 1998 list and 488 from Table B. West Virginia’s 2002 list also contains significant numbers of segments impaired by AMD; however, this list has not yet been approved by USEPA.

DEP does not currently list streams solely for sediment impairment on the 303(d) list (Campbell and Montali, 2003). However, a recent study indicates increased sediment below valley fills, compared with unmined sites (Wiley et al., 2001). There is also significant anecdotal evidence that sedimentation is adversely affecting streams in coal mining regions. In 1999 and 2000, American Rivers documented sediment build-up in the Coal River stemming from mountaintop removal coal mining operations and associated valley fills. In both years, it placed the Coal River on its national Most Endangered Rivers list, and in 2000 it noted that the Coal River, once more than twelve feet deep, is now only inches deep in some places (American Rivers, 2002). Local residents recall swimming in segments of the Coal River that now barely come up to the knee. This sediment build-up of the Coal River's bottom occurs below several mines with large valley fills (Bonds, 2002).

“Local residents recall swimming in segments of the Coal River that now barely come up to the knee. This sediment build-up of the Coal River's bottom occurs below several mines with large valley fills.”

Other pollutants

Several other pollutants may be discharged from coal mining operations but typically do not have discharge limits (See Section 2.2). For example, the USEPA has found selenium concentrations that exceed water quality standards downstream from several mountaintop removal/valley fill (MTR/VF) coal mines in West Virginia (Bryant et al., 2002). Nine of these streams were put on West Virginia's 2002 303(d) list, which has been submitted to USEPA for approval (DEP, 2002a).

1.2 The regulatory context

NPDES permits

The federal CWA set an aggressive goal of eliminating the discharge of pollutants into the nation's waters by 1985.⁶ An interim goal—achieving water quality sufficient to protect aquatic life and to provide for recreation—was to be attained by 1983.⁷ Clearly, these fundamental goals have yet to be met.

The CWA makes it unlawful to discharge pollutants from point sources into receiving waters unless NPDES permits are obtained.⁸ The authorized discharge of pollutants into the nation's waters thus is a privilege granted to point source facilities by the public, and is intended as a stepping stone toward the ultimate elimination of all discharges. Virtually all types of active coal operations that discharge pollutants to streams or rivers are point source discharges and are subject to NPDES permits.

In West Virginia, the USEPA has delegated responsibility for administering the NPDES program to the DEP, but sets minimum federal standards and retains oversight of the permitting process. Although DEP's Division of Water and Waste Management actually approves mining NPDES permits, these permits are developed by the Division of Mining and Reclamation.

Total maximum daily loads

TMDL cleanup plans are developed for impaired waters on the State's 303(d) list. In compliance with CWA regulations, these plans allocate needed reductions in pollutant discharges to point and nonpoint sources.⁹ The reductions assigned to point sources must be incorporated into their NPDES permits.

⁶ 33 U.S.C. § 1251(a)(1).

⁷ 33 U.S.C. § 1251(a)(2).

⁸ 33 U.S.C. § 1311.

⁹ 40 CFR 130.7.

Agencies use other means, such as direct subsidies and cost-share programs, to implement nonpoint source pollutant reductions.

Antidegradation

Antidegradation provides a three-tiered approach to water quality protection. Tier 1 protection applies to all waters of the state and requires the maintenance of water quality that supports public uses. Tier 2 protection only allows high quality waters to be degraded when it is necessary for important local economic or social development, and Tier 3 absolutely protects outstanding waters of particular state or national importance. In 2001, the West Virginia legislature passed, and USEPA approved, West Virginia's antidegradation implementation procedures. These procedures do not meet the federally required minimum antidegradation standards outlined in the CWA,¹⁰ and illegally exempt many activities from antidegradation review. The procedures are being challenged in court and a decision is expected in 2003.¹¹

The Surface Mining Control and Reclamation Act

While the CWA requires NPDES permits that limit pollutant discharges to protect water quality, the 1977 federal Surface Mining Control and Reclamation Act imposes broader requirements on coal mining operations, which are intended to protect society and the environment from a range of adverse effects (McElfish and Beier, 1990).¹² When properly implemented, these laws are intended to work together to minimize or eliminate coal mining's environmental and social damages.

¹⁰ 40 CFR 131.12.

¹¹ Ohio Valley Environmental Coalition et al. vs. Christie Whitman, Administrator, USEPA.

¹² 30 U.S.C. § 1201.

2. PERMITS ARE WEAK

Before explaining the weaknesses of coal permits, this section provides a brief background on NPDES permitting practices. NPDES permits contain limits on the maximum amount of various pollutants that can be discharged into waterways. These limits can be calculated in one of two ways: based on the technology used for treatment, or based on the resulting water quality in receiving streams.

Guidelines for technology-based effluent limitations (TBELs) are established by USEPA for broad industrial categories by assuming the use of minimum, industry-specific pollutant control technologies. All dischargers in each industry, including the coal industry, must meet or exceed TBELs. Until recently, virtually all limits for coal-related permits have been TBELs. TBELs are based on the use of standard, existing technologies and do not account for the characteristics of receiving waters or additional discharges of similar pollutants from other nearby facilities; therefore, they are often not stringent enough to ensure that water quality standards in receiving waters are met and that uses of streams are protected.¹³

“TBELs are based on the use of standard, existing technologies and do not account for the characteristics of receiving waters or additional discharges of similar pollutants from other nearby facilities; therefore, they are often not stringent enough to ensure that water quality standards...are met...”

In contrast to TBELs, water quality-based effluent limitations (WQBELs) are calculated to protect water quality in receiving streams. Federal regulations require states to assess discharges to determine whether these more stringent limits are needed. In particular, WQBELs are necessary if a discharge, after the application of a TBEL, has the reasonable potential to cause or contribute to a violation of water quality standards.¹⁴

2.1 *Lenient federal guidelines allow unlimited, unmonitored pollution*

USEPA has allowed the coal industry to operate under weak technology-based permits since they first establish TBEL guidelines for coal mining operations in the 1980s.¹⁵ These guidelines are still used today as the basis for many coal mining NPDES permits. As shown in Table 1, TBELs are required for sediment, measured as total suspended solids (TSS), as well as for iron, manganese, and pH.

TBELs are based on the use of sediment ponds as the pollution control technology. From the beginning, USEPA recognized the limited treatment efficacy of these ponds when it rains: “[p]recipitation events can make it infeasible [for coal operators] to meet [technology-based] effluent limitations on TSS, iron and manganese...” (USEPA, 1982, p. 284). To address this concern, USEPA weakened the TBELs with a series of exemptions, called alternative storm limitations, in their guidelines for TBELs.¹⁶

As shown in Table 2, adopted from a section included in most coal mining NPDES permits, limitations get weaker—or in some cases are removed—as soon as it rains. For example, manganese and iron limits for discharges from steep slope and mountaintop removal mining areas (effluent type “f”) are removed as soon as it rains, no matter how little.

¹³ In accordance with the CWA, West Virginia rules contain water quality standards for a wide range of pollutants to protect each water use. One of the primary functions of these standards is to help set permit limits. Standards are also used to determine whether or not waters are impaired.

¹⁴ 40 CFR 122.44 (d)(i).

¹⁵ 40 CFR 434.

¹⁶ 40 CFR 434.63.

Table 1: Technology-based effluent limitations for coal mining

Parameter	Discharge Limitations (mg/L)	
	Maximum daily	Average monthly
Sediment (TSS)	70	35
Iron	6	3
Manganese	4	2

pH must be between 6 and 9 at all times

Notes: From 40 CFR 434. mg/L = milligrams per liter. TSS = total suspended solids.

Limitations on sediment switch from TSS¹⁷ during dry weather to a less stringent measure of sediment—settleable solids (SS)¹⁸—as soon as there is any precipitation for effluent types “d,” “f,” and “g.” SS measures only the coarse sediment that settles quickly to the river bottom, instead of all the solids in the water. No sediment limits apply to any operations during storms greater than the ten-year 24-hour storm, with the exception of effluent type “a.”

Table 2: Alternative storm limitations for coal mining in AMD areas

Effluent type	Dry weather	Discernable precipitation	1-year 24-hour storm	2-year 24-hour storm	10-year 24-hour storm
a. Discharges from underground workings of underground mines not commingled	TSS pH Fe Mn (No alternative limitations)				
b. Discharges from underground workings of underground mines commingled	TSS pH Fe Mn				pH
c. Controlled surface mine drainage (except steep slope and mountaintop removal mining)	TSS pH Fe Mn				pH
d. Non-controlled surface mine drainage (except steep slope and mountaintop removal mining)	TSS pH Fe Mn	SS pH Fe Mn		SS pH	pH
e. Discharges from coal refuse disposal areas	TSS pH Fe Mn		SS pH		pH
f. Discharges from steep slope and mountaintop removal mining areas	TSS pH Fe Mn	SS pH			pH
g. Discharges from preparation plants and preparation plant associated areas (excluding coal refuse piles)	TSS pH Fe Mn	SS pH			pH
h. Discharges from reclamation areas	SS pH				pH

Notes: Adopted from DEP, 2000, which is based on 40 CFR 434.63. Discernable precipitation is defined as any discharge or increase in volume of a discharge caused by precipitation within any 24 hour period. Dry weather limitations for TSS, pH, Fe, and Mn are the TBELs shown in Table 1. All SS limits are as follows: SS < 0.5 mL/L maximum daily. TSS = total suspended solids. SS = settleable solids. Fe = iron. Mn = manganese.

These weak alternative storm limitations for TBEL coal permits are significant for two key reasons. First, surface mine discharges may be poorly controlled—or in some cases, uncontrolled—at critical times: during storms when discharge flows are typically the greatest. In fact, because of the dependence of surface mining discharges on rainfall, many types of surface mines typically do not discharge during dry weather, the very time when the most stringent limits are in effect (Politan et al., 2002). These exemptions therefore allow unlimited amounts of pollution to be discharged by nearly every kind of coal mine. Whether or not USEPA provides relief from TBELs during storms, the CWA still requires that permits be written to protect stream uses and meet instream water quality standards during all types of weather. If discharges from an operation with a TBEL permit cause a water quality standard

“These exemptions therefore allow unlimited amounts of pollution to be discharged by nearly every kind of coal mine.”

¹⁷ TSS includes all the suspended matter in the stream.

¹⁸ SS measures the solids that settle in an Imhoff cone in 45 minutes, plus the solids that settle during an additional 15 minutes after the cone is gently stirred (USEPA, 1982).

violation or impair a stream use, a more stringent permit must be written. Permit writers are not currently meeting this requirement.

The alternative storm limitations are also important because federal regulations require permittees, at a minimum, to monitor for pollutants that are limited at the time the sample is taken.¹⁹ For example, monitoring of mountaintop removal and preparation plant areas during rainfall must only include pH and SS, and need not include iron and manganese. Additional monitoring at high flows can be, but is not, required by DEP (Politan et al., 2002). Not requiring monitoring during storms prevents mining companies, regulatory agencies, and the public from knowing what pollutant loads are actually being discharged at exactly the times when discharge flows are the highest (See Section 3).

If discharges from an operation with a TBEL permit cause a water quality standard violation or impair a stream use, a more stringent permit must be written. Permit writers are not currently meeting this requirement.”

Recommendations

DEP

- Issue permits without alternative storm limitations. Until research demonstrates that pollutant loads discharged during storms do not impair receiving waters, these exemptions cannot be justified.

USEPA

- Review federal effluent limitation guidelines for coal mining and remove the alternative storm limitations. The failure of coal TBELS to protect water quality during precipitation necessitates removing these exemptions. Improved treatment systems should be required to ensure that water quality standards are met.

2.2 Permits do not limit toxic metals such as selenium

In developing TBEL guidelines for coal mining, USEPA recognized that some mines would likely contain toxic metals in their untreated discharge (USEPA, 1982); however, many toxic metals were excluded from regulation. Some (e.g., antimony, beryllium, cadmium, cyanide, silver, and thallium) were excluded because they could not be effectively reduced by technologies known at the time and because they were detected infrequently and at very low levels (USEPA, 1982). Others (e.g., arsenic, chromium, copper, lead, mercury, nickel, selenium, and zinc) were excluded because sediment ponds were thought to effectively control the small amount of these metals typically found (USEPA, 1982).

Instead of requiring TBELs for a long list of toxic metals, USEPA opted to use iron and manganese as indicator parameters that would reflect the overall efficacy of treatment. If iron and manganese levels were low when monitored, it was assumed that levels of other toxic metals would be low, too. While this system makes monitoring simpler, it adds uncertainty because iron and manganese are unlimited and unmonitored during rainfall for many types of coal mining operations.

“...USEPA opted to use iron and manganese as indicator parameters that would reflect the overall efficacy of treatment...While this system makes monitoring simpler, it adds uncertainty because iron and manganese are unlimited and unmonitored during rainfall...”

USEPA also noted that some toxic metals could be found in significant amounts at some mines and urged state permitting authorities to consider imposing limitations in those cases (USEPA, 1982). The responsibility therefore rests with DEP to ensure that toxic metals found in West Virginia’s coal mining discharges are limited appropriately.

¹⁹ 40 CFR 122.44(i).

In one recent example, data suggest that violations of the selenium water quality criterion are associated with coal mining operations, and that selenium limitations are warranted. As a result of the settlement agreement stemming from the 1998 West Virginia lawsuit on mountaintop removal operations, state and federal agencies drafted an environmental impact statement on MTR/VF coal mining. The study, among other things, evaluated the water quality impacts of coal mines. Water samples taken in 2000 and 2001 document instream violations of the selenium water quality criterion in 66 of 210 samples.²⁰ All tests above the criterion were at sampling sites associated with MTR/VF operations. At one site associated with a large mining complex, the average test results exceeded the criterion by more than 7 times. The environmental impact statement further states that in the region of MTR/VF mining, “the coals can contain an average of 4 ppm of selenium, normal soils can average 0.2 ppm, and the allowable limits in the streams are 5 ug/L (0.005 ppm). Disturbing coal and soils during [MTR/VF] mining could be expected to result in violations of the stream limit for selenium.” (Bryant et al., 2002, Section 6.8, p.1). Nevertheless, DEP still issues permits without selenium limits for coal mines that disturb high selenium soils.

Selenium Toxicity

Selenium is an essential nutrient at low levels; however, excess selenium in humans can cause nerve damage, fatigue, bronchitis, pneumonia, and kidney, liver, and circulatory damage. Some forms of selenium are carcinogenic. In wildlife, excess selenium causes reproductive failure (it can destroy fish populations with no other symptoms), birth defects, gill failure, anemia, liver impairment, kidney damage, heart disease, eye damage, and corneal cataracts (Lemly, 2002; USEPA, 2002b).

To date, DEP has issued only one NPDES permit with limits for zinc, and none for arsenic, chromium, copper, lead, mercury, nickel, or selenium (Politan et al., 2002). However, DEP placed nine streams with selenium violations shown in the environmental impact statement on its 2002 303(d) list, with the cause listed as unknown. The first selenium TMDL cleanup plans are scheduled to be released in 2004 (Campbell, 2002).

Recommendations

DEP

- Assign appropriate discharge limits for toxic metals. In particular, determine which coal operations have the potential to cause or contribute to violations of the selenium criterion, and promptly issue stringent selenium limits to prevent these violations from continuing. Rather than waiting for existing permits to be renewed, immediately reopen suspect permits.²¹
- Consider enforcement actions. When violations of the selenium criterion can be directly linked to a permitted discharge, enforcement actions may be warranted.

2.3 Water quality standards are weaker than federal guidelines

Ultimately, all coal NPDES permits must be written to protect the uses of West Virginia’s rivers and streams, and must comply with the CWA.²² Stream uses range from recreation, to propagation and maintenance of aquatic life, to public water supply.²³ Each use is assigned specific water quality criteria for common pollutants and conditions that, if met, will protect those uses. Protective, scientifically sound

²⁰ West Virginia’s water quality standards include selenium criteria to protect aquatic life and human health. The most stringent of these criteria is the chronic aquatic life criterion: 5 ug/L.

²¹ All NPDES permits contain a condition that states that discharges must not cause violations of West Virginia narrative water quality criteria. One narrative criterion prohibits the discharge of “materials in concentrations which are harmful, hazardous or toxic to man, animal or aquatic life” (46 CSR 1.3).

²² 40 CFR 131.12, 40 CFR 122.43; 40 CFR 122.44, 47 CSR 30.3.2.a.1 & 6.

²³ 46 CSR 1.6 lists all of West Virginia’s uses.

water quality standards are the foundation of most CWA programs and activities, such as WQBELs, the listing of impaired waters on the 303(d) list, the development of TMDL cleanup plans, and the implementation of antidegradation.

Discharges from coal mining activities may be acidic and typically contain sediment, iron, and manganese, and sometimes aluminum and other metals. Numeric water quality criteria are in place for each of these pollutants; however, the West Virginia criteria for pH, iron, manganese, aluminum, and turbidity are weaker than federal guidelines (USEPA, 2002a and 1986).²⁴ Table 3 compares the important differences between West Virginia criteria and recommended federal criteria for these coal-related parameters.

Turbidity is perhaps the most egregious example, because the standard explicitly exempts coal mining operations from meeting the standard, unless they discharge to trout streams. There is no scientific justification for this exemption. As a result of these deficiencies, DEP is using weak criteria that do not protect stream uses in a range of cases. Even when WQBELs are calculated, coal NPDES permits are not as strict as necessary to protect existing and designated uses. TMDL cleanup plans and other programs based on these water quality criteria are also flawed because the targets set to measure clean water are weak and do not protect stream uses.

“TMDL cleanup plans and other programs based on these water quality criteria are...flawed because the targets set to measure clean water are weak and do not protect stream uses.”

Table 3: Differences between West Virginia and recommended federal water quality criteria for coal-related parameters

Parameter	Human health ²⁵		Aquatic life	
	West Virginia	Federal	West Virginia	Federal
Iron ^{a, c}	1.5 mg/L	0.3 mg/L	1.5 mg/L	1.0 mg/L
Manganese (applicability) ^{c, e}	only 5 miles above drinking water source	everywhere	none	none
Manganese (criterion) ^{b, c}	1 mg/L	0.05 mg/L	none	none
Aluminum ^c	none	none	Conversion factor included ²⁶	No conversion factor
Turbidity ^d	none	none	coal exempt, except in trout waters	coal not exempt
pH	6 - 9 ²⁷	5 - 9	6 - 9	6.5 - 9

Notes: West Virginia criteria are from 46 CSR 1 Appendix E. Recommended federal criteria are from USEPA, 2002a. a = Disapproved and later approved by USEPA (Laskowski, 1994; Capacasa, 2003). b = Disapproved by USEPA (Laskowski, 1994). c = Subject of litigation initiated by the Mid-Atlantic Environmental Law Center on behalf of the West Virginia Rivers Coalition, which is pending (Stuhltrager, 2003a and b). d = The Appalachian Center for the Economy and the Environment, on behalf of the West Virginia Rivers Coalition, has petitioned USEPA to reconsider its 1982 approval; the decision is pending (Janes, 2002). e = Subject to the Alaska rule and not currently implemented. USEPA approval or disapproval is pending (Chatfield, 2002).

²⁴ West Virginia’s water quality criteria are at 46 CSR 1.

²⁵ The human health criteria for iron and manganese relate to organoleptic effects: those relating to taste, odor, and staining.

²⁶ USEPA has not recommended a conversion factor between total and dissolved forms of aluminum. In addition, USEPA’s recommended criterion is for pH between 6.5 and 9. Many West Virginia streams are at lower pH, at which the criterion does not protect aquatic life from toxic forms of aluminum.

²⁷ EQB voted to change this criterion to the federal standard on April 17, 2003.

Recommendations

EQB

- Ensure that all water quality criteria comply with federal guidance, or provide sound scientific reasons why other criteria are valid for West Virginia.

USEPA

- Disapprove West Virginia's pH, turbidity, iron, manganese, and aluminum standards, and promulgate new standards that are consistent with federal guidance.

2.4 Permits do not always protect water quality

According to the CWA, permits must be written to protect water quality and uses in receiving waters; however, DEP does not always comply with this mandate. Although DEP's practices are improving over time, permit writers still issue TBELs—along with alternative storm limitations—in cases where stricter WQBELs are needed to protect receiving streams.

“Although DEP’s practices are improving over time, permit writers still issue TBELs—along with alternative storm limitations—in cases where stricter WQBELs are needed to protect receiving streams.”

The first step in calculating appropriate WQBELs is to determine if the receiving water is impaired. If it is impaired, then certain procedures must be followed to ensure that permitted discharges do not cause the impairment to worsen, or, if a TMDL cleanup plan is in force, that the discharges are reduced as prescribed in the plan. If the receiving water meets water quality standards, then certain procedures must be followed to ensure that it continues to do so. This section considers each of these three key issues: determining impairment, permitting in impaired waters, and permitting in waters that meet standards.

Determining if receiving waters are impaired

DEP takes several steps to determine if receiving waters are impaired. The CWA requires the agency to compile a list of impaired waters called the 303(d) list. Permit writers can use this list to help determine whether or not receiving streams are impaired, and if so, for what pollutants.

A second method for determining impairment, at least when considering applications to renew or modify existing permits, is to check the instream water quality data typically required to be submitted by permittees in their monthly discharge monitoring reports. Comparisons of these data against state water quality standards should demonstrate how often each standard is met; data collected upstream and downstream from the discharge should help determine whether or not the mining operation is to blame for violations.

A third opportunity stems from the antidegradation implementation procedures, which require new and expanded dischargers to collect baseline water quality data before permits are issued. These data are used in the antidegradation process to determine whether or not standards are being met for pollutants that are proposed to be discharged.

Despite these range of methods available for determining impairment, several types of impaired waters may not be identified because of inadequate data: waters where existing data are old, waters where data have not been collected to satisfy antidegradation procedures, waters with only a few

“...several types of impaired waters may not be identified because of inadequate data...If impairment is not determined correctly, discharge limits will not be calculated correctly.”

documented violations that are not on the 303(d) list,²⁸ and waters where instream data collection is not required of the permittee. In addition, the lack of focused sampling during rainfall suggests that the data that are collected and assessed are biased toward the times when some active mines are least likely to discharge. If impairment is not determined correctly, discharge limits will not be calculated correctly.

Recommendation

DEP

- Ensure that enough recent data are available to determine whether receiving streams are impaired for all relevant pollutants. Data must be collected at base flows and high flows so that each stream's true critical conditions are considered (See Section 3.2). Permits should not be issued until these data are collected.

Permit limits in impaired waters

If a receiving water is impaired, WQBELs must be issued. Different practices are used to calculate these limits before and after TMDLs are completed.

Before TMDLs are completed

If a water is impaired but a TMDL has not yet been completed, federal regulations prohibit discharges that cause or contribute to violations of water quality standards.²⁹

Recently, DEP has started to issue permits in these waters

by calculating WQBELs for some, but not all, of these discharges to ensure that end-of-pipe discharges meet water quality criteria without any dilution in receiving streams (Politan et al., 2002). Although this practice ensures that permitted discharges will not *cause* violations, it still enables additional loads to be discharged, and these loads will *contribute* to violations. Permitting new loads into impaired waters before TMDLs are developed violates federal regulations.³⁰

“Permitting new loads into impaired waters before TMDLs are developed violates federal regulations.”

Recommendations

DEP

- Do not issue new permits for discharges into impaired streams until TMDLs have been developed that include allocations for new permits.
- Require fact sheets to assess stream impacts and the reasonable potential for discharges to violate standards. Fact sheets for new permits, renewals, and modifications should show calculations of WQBELs for each pollutant, demonstrate how these WQBELs will protect uses, and discuss why these WQBELs are or are not included in the draft permit.

After TMDLs are completed

TMDL cleanup plans developed for AMD typically determine the total amount of iron, aluminum, and manganese that can be discharged to waters while still meeting water quality standards. These allowable loads are then allocated to sources of AMD: abandoned mine lands, bond forfeiture sites, and permitted active coal mining operations.

As shown in Table 4, many AMD TMDLs have been completed in West Virginia. Most target active coal mining operations for at least a portion of the necessary pollutant reductions. To conform with federal regulations, targeted permits must then be modified by calculating WQBELs that reflect the wasteload allocations (WLAs) assigned in the TMDLs. This section documents that these required WQBELs have not been incorporated into permits.

²⁸ A certain percentage of samples must show a violation in order for a stream to be placed on the 303(d) list.

²⁹ 40 CFR 122.44.

³⁰ Clean Water Act regulations at 40 CFR 122.4(i) prohibit these new discharges.

Of the AMD TMDLs completed in 1998, only the Tenmile Creek TMDL called for a point source reduction. Only in June 2001—three years after the publication of the TMDL—did DEP revise the permit targeted by the TMDL. The permit holder, Upshur Property, then appealed its permit to the West Virginia Environmental Quality Board (EQB, 2001).

“The fact that DEP has still not revised this permit to conform to the TMDL demonstrates a lack of will to implement point source reductions required by TMDLs.”

In September 2001, Upshur and DEP agreed to a consent order that delayed the final implementation of aluminum and manganese limits until December 2002, to allow time for additional water quality monitoring (DEP, 2001).³¹ As of January 2003, however, the aluminum and manganese limits still have not been incorporated into the permit. After the publication of the TMDL, Upshur was given almost four years to devise a solution to the challenge of treating aluminum and manganese to the required limits. The fact that DEP has still not revised this permit to conform to the TMDL demonstrates a lack of will to implement point source reductions required by TMDLs.

Table 4: Completed AMD TMDLs in West Virginia

Impaired water	Year
Buckhannon River	1998
Tenmile Creek	1998
Cheat River and tributaries	2001
Elk River and tributaries	2001
Paint Creek and tributaries	2001
Stony River and tributaries	2001
Tygart River and tributaries	2001
Dunloup Creek and tributaries	2002
Monongahela River and tributaries	2002
Tug Fork River and tributaries	2002
West Fork River and tributaries	2002

Sources: USEPA, 1998a-b, 2001a-d, and 2002c-f; DEP and USEPA, 2001.

The AMD TMDLs completed in 2001 affect numerous point sources. With the exception of Cheat River watershed permits,³² DEP has stated its intention to incorporate these reductions into NPDES permits when they are up for renewal under the state’s watershed management framework permit reissuance cycle in 2002 (Politan et al., 2002).

To evaluate DEP’s success in modifying permits as required by TMDLs, a random sample of the coal mining NPDES permits in the Tygart River watershed was assessed. One-quarter of the permits targeted for restrictions in the Tygart River TMDL, plus one-quarter of the permits listed in the TMDL but left without new WLAs, are included in this survey.³³

³¹ Treatment of aluminum to low levels affects the treatment for manganese; therefore, while the TMDL does not call for reductions in manganese discharge limits, the TMDL indirectly affects the ability of the permittee to meet its manganese limits.

³² In the Cheat TMDL, USEPA instructs DEP not to implement the TMDL’s point source reductions: “EPA suggests that the WVDEP defer action on permit reissuances through a (sic) short-term administrative permit extensions in this watershed.” (USEPA, 2001b, p. 9-27). USEPA has indicated that it will redo the Cheat TMDL based on an improved model, and its suggestion not to implement point source reductions may turn out to be temporary. As of December 2002, however, the revised Cheat TMDL has not been released, and these permits remain in limbo.

³³ Only active permits for underground and surface mines were included in this assessment. Permits for preparation plants, haul roads, quarries, and prospecting were ignored, as were permits that are inactive, revoked, or at some phase of bond release.

As shown in Table 5, none of the ten randomly selected permits had been updated by mid-January 2003,³⁴ even though the TMDL was released in March 2001 and DEP had committed to updating these permits in 2002. Again, as with the single permit targeted by an AMD TMDL in 1998, DEP's commitment to promptly issue WQBELs based on TMDLs is not apparent. The result: permit limits remain weak and impaired stream segments in the Tygart watershed remain polluted, even after the TMDL has been developed.

“...none of the ten randomly selected permits had been updated by mid-January 2003, even though the TMDL was released in March 2001 and DEP had committed to updating these permits in 2002...The result: permit limits remain weak and impaired stream segments in the Tygart watershed remain polluted, even after the TMDL has been developed.”

Recommendation

DEP

- In impaired waters after TMDLs are completed, promptly incorporate WLAs into NPDES permits during the next permit reissuance cycle.

Table 5: Selected Tygart River watershed coal-mining NPDES permits

Permittee	NPDES Permit ID	Permit updated after TMDL?
<u>Permits with WLAs assigned in TMDL</u>		
Ali Co.	WV1017331	No
Philippi Development, Inc.	WV0043273	No
Bass Energy, Inc.	WV0027031	No
Bentley Coal Company	WV1003500	No
Three-C Mining, Inc.	WV1013858	No
Dana Mining Company, Inc.	WV1011464	No
Dante Coal Company	WV0004421	No
Sharon Coal Co.	WV1007378	No
<u>Other permits in TMDL</u>		
Ten-A-Coal Company	WV1003461	No
Upshur Property, Inc.	WV0061689	No

Sources: DEP, 2000; 1999a-c; 1998b-d; 1996; 1993a-b. WLA = wasteload allocation.

Permit limits in unimpaired waters

Permit limits in unimpaired waters must be calculated, at a minimum, to maintain water quality to meet existing and designated uses and comply with antidegradation requirements.³⁵ DEP's practices for calculating WQBELs in unimpaired waters has evolved over the last 25 years.

To carry out the mandate of the CWA, permitting authorities must evaluate the potential impacts of discharges to receiving streams. The key task is to anticipate the water quality impacts over critical flows to the receiving stream for a specific discharge, considering other contributing sources of pollution.³⁶ While this is done now in some cases, past permitting practices resulted in WQBELs only for certain classes of discharges, and not for those discharges that were calculated to cause or contribute to violations of standards based on site-specific calculations.

Prior to 2002

During the mid-1980s, virtually all NPDES permits for coal operations were routinely given TBELs, thus ignoring impacts to receiving streams. During the late 1980s, DEP began to issue a few WQBELs, and in the mid-1990s DEP established additional policies for their issuance. WQBELs were required for new

³⁴ Permit files in DEP's Philippi Field Office were reviewed on January 18, 2003.

³⁵ 40 CFR 122.44 (d); 40 CFR 131.12.

³⁶ 40 CFR 122.44(d)(ii).

outlets discharging over 500 gallons per minute³⁷ and for instream sediment ponds that drained over 250 acres.³⁸ There is no scientific justification for this arbitrary 250 acre limitation. WQBELs were also issued for discharges to year-round native brook trout streams, as verified by the West Virginia Division of Natural Resources (see Section 2.6). Together, these policies required WQBELs for certain classes of discharges. In contrast to CWA regulations, they were not required for mines when TBELs were not sufficient to protect uses in receiving waters.

WQBELs for sediment-related parameters—TSS and SS—were never issued. Coal’s illegal exemption from the state turbidity standard and the lack of specific water quality criteria for TSS and SS are cited as justifications for this policy (Politan, 2002).

New policies in the 1990s resulted in WQBELs for about one-third of all outlets, with most of these limits applying to discharges from instream treatment ponds (See Section 2.5 for an outline of the legal issues on instream ponds) (Politan et al., 2002). While permitting practices improved to some degree since the mid-1980s, DEP still used a cookie cutter approach to permitting: Permit writers evaluated the placement of sediment ponds or the drainage areas of discharges, but did not assess the impacts of discharges on receiving streams. In all but a small handful of cases, antidegradation requirements were also ignored, when permit limits were calculated before 2002 (Politan, 2002). Because of these practices, DEP issued less stringent TBELs in many cases where stricter WQBELs were required to meet water quality standards and to prevent degradation. DEP’s permitting practices continue to evolve.

“DEP issued less stringent TBELs in many cases where stricter WQBELs were required to meet water quality standards and to prevent degradation.”

2002 and Beyond

In 2001, the West Virginia legislature passed weak and illegal antidegradation implementation procedures.³⁹ DEP is now developing detailed guidance on the procedures; the guidance is expected to be completed in 2003 (Politan et al., 2002). In the meantime, the agency has begun to implement antidegradation. Until all guidance is finalized and implemented, DEP’s permitting practices remain unpredictable.

Antidegradation implementation has the potential to improve DEP’s NPDES permitting practices for new or expanded activities: DEP intends to issue permits with WQBELs when TBELs are predicted to degrade a stream by more than 10 percent.⁴⁰ Significantly, these permits would not include alternative precipitation limits.

While assigning WQBELs to the majority of new NPDES permits is a positive change, it does not meet the federally required minimum antidegradation standards outlined in the CWA.⁴¹ Antidegradation is intended to weigh the public costs and benefits for every discharge. If a discharge that degrades a stream does not result in a clear overall public benefit, it should not be permitted. If better, economically feasible pollution control technologies are available, they must be used.

Recent state guidance for antidegradation implementation sets weak standards for baseline water quality assessment, socio-economic review, intergovernmental coordination, public participation, and reasonable

³⁷ Very few, if any, surface mines are known to discharge over 500 gpm; approximately 100 pumped discharge outlets from underground mines discharge over 500 gpm (Politan et al., 2002).

³⁸ WQBELs could be issued for instream ponds draining between 200 and 250 acres at the discretion of the permit writer.

³⁹ 60 CSR 5.

⁴⁰ WQBELs are not issued for minor outlets that discharge directly from benches.

⁴¹ 40 CFR 131.12.

alternatives analysis (WVDEP, 2002b). These weak policies indicate that the antidegradation review process, once finalized, will be a rubber stamp that allows dischargers to continue to pollute without valid socio-economic analyses, meaningful public participation, or true assessments of pollution control alternatives.

“These weak policies indicate that antidegradation review process, once finalized, will be a rubber stamp that allows dischargers to continue to pollute without valid socio-economic analyses, meaningful public participation, or true assessments of pollution control alternatives.”

Recommendations

DEP

- In unimpaired waters, calculate WQBELs for all discharges—whether or not they are existing, new, or expanded—and issue WQBELs when necessary to protect receiving streams.
- Evaluate sediment impacts to streams and issue WBELs for TSS where appropriate.
- Implement antidegradation in a manner that is consistent with federal law. Do not weaken West Virginia’s illegal antidegradation rules by issuing faulty guidance, which would turn antidegradation reviews into rubber stamps for business as usual.

2.5 Streams are used exclusively for waste assimilation and treatment

The objective of the CWA is: “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”⁴² In concert with that principal, states are required to designate stream uses that “protect the public health or welfare [and] enhance the quality of water.”⁴³ Federal and state regulations clearly ban waste transport and waste assimilation as primary stream uses.⁴⁴

However, DEP commonly permits mining operations to build sediment ponds directly in streambeds and below valley fills, transforming streams from free-flowing, biologically rich habitats into waste assimilation and treatment systems. About one-third of the coal NPDES permits issued in West Virginia apply to these instream ponds (Politan et al., 2002).

During mountaintop removal mining, stream segments and instream sediment ponds immediately downstream from valley fills are also used as waste treatment systems. Because untreated waste is discharged directly into these streams and ponds, they do not and cannot meet water quality standards or support beneficial public uses. Thus, all discharges to instream sediment ponds or stream and pond treatment complexes below valley fills are illegal and undermine the primary goals of the CWA.

Recommendation

DEP

- Stop permitting new discharges from instream treatment ponds and treatment systems below valley fills, and phase out existing permits for these discharges. Require all waste treatment to occur adjacent to, and not in, streams.

⁴² 33 U.S.C. § 1251(a).

⁴³ 33 U.S.C. § 1313(c)(2)(A).

⁴⁴ 40 CFR 131.10, 46 CSR 1.6.1.a.

2.6 Trout streams are not fully protected

The CWA requires permits to be written to protect both existing stream uses and uses designated by the state. Existing uses include those met since 1975, whether or not they have been designated by the state.

West Virginia's water quality standards include a designated use to protect trout waters.⁴⁵ This use applies to the over 100 trout streams listed in the state water quality standards,⁴⁶ as well as to any other trout stream that is not specifically listed. Stringent water quality criteria for these waters provide special protection from excess sediment, heat, and chemical pollutants in order to preserve trout habitat, assure reproduction, and prevent mortality.

While this scheme should protect trout streams from pollution, it does not. When DEP writes NPDES permits for coal operations, it recognizes only those trout streams currently inventoried by the West Virginia Division of Natural Resources as native brook trout habitat (Politan et al., 2002), thereby ignoring designated trout streams and streams with existing trout uses. DEP, in fact, is removing uses solely at its discretion, counter to a clear CWA mandate that use removals must follow strict protocols called use attainability analyses.⁴⁷ DEP's policy not only severely limits protection for trout habitat, but also excludes the public and other agencies from a crucial decision-making process required for removing uses.

"DEP's policy not only severely limits protection for trout habitat, but also excludes the public and other agencies from a crucial decision-making process..."

A second flaw in DEP's permitting practices undermines protections for trout streams as well. The state water quality criterion for turbidity exempts coal mining operations.⁴⁸ Although this exemption does not apply in trout streams, coal mining operations that discharge to trout waters are still routinely assigned TBELs for sediment, including alternative storm limitations (Politan, 2002). The agency requires no special efforts to control sediment discharges to trout waters, despite the fact that coal mining operations are legally required to prevent sedimentation in these sensitive streams.

Recommendation

DEP

- Protect all trout streams. Identify all existing and designated trout uses when issuing NPDES permits by checking EQB designations and verifying uses since 1975. Require WQBELs when necessary for iron and TSS in all trout streams so that habitat and reproduction are adequately protected.

⁴⁵ 46 CSR 1.6.3.b.

⁴⁶ 46 CSR 1 Appendix A.

⁴⁷ 40 CFR 131.10(g).

⁴⁸ 46 CSR 1 Appendix E, Table 1, Section 8.32 and 8.32.1.

3. PERMIT MONITORING IS INSUFFICIENT

All NPDES permits require self-monitoring to ensure that permit limits are met. End-of-pipe monitoring is used to compare directly with permit limits. In addition, instream monitoring is often used to ensure that permitted discharges are not causing violations of water quality standards in receiving streams. Current permitting practices are insufficient in both of these cases.

3.1 *End-of-pipe monitoring is not representative*

To be useful in ensuring compliance, monitoring data must provide an accurate picture of what is being discharged. Current practices, however, do not guarantee that these data are representative. DEP generally requires routine end-of-pipe monitoring only twice a month, and permittees need not monitor parameters that are granted rainfall exemptions at the time that samples are taken.⁴⁹

As described in Section 2.1, coal TBELs are weak when it rains because few discharge limits apply. During these times when the discharges are the greatest and the least restricted, they are also not effectively monitored. DEP does not require additional monitoring during storm events (Politan et al., 2002); therefore, data about peak flows from TBEL permits do not exist.

“During these times when the discharges are the greatest and the least restricted, they are also not effectively monitored.”

For permits assigned WQBELs, DWR generally requires more thorough monitoring because the limits are in force even when it rains. Thus, some information on peak discharges should be obtained as random twice-a-month sampling theoretically coincides with at least some storm events. Still, permits assigned WQBELs do not require monitoring during storms. Without regularly collected data that are representative of discharges over all precipitation intensities, it is difficult if not impossible to assess the impacts of active coal mines on our rivers and streams.

The paucity of accurate monitoring data is compounded by another DEP policy. If an outlet does not discharge on the day that samples are collected, permittees record “no flow” on their monitoring report, whether or not “no flow” is truly representative of the discharges over the entire month. While this practice appears to be in violation of the federal requirement for representative monitoring,⁵⁰ it is sanctioned by DEP (Politan et al., 2002).

In addition, it is up to the permittee to document the intensity of storms and the corresponding permit limits that apply. DEP never verifies rainfall measurements unless an inspector happens to be onsite for a routine inspection during a storm (Politan et al., 2002).

⁴⁹ 40 CFR 122.44(i).

⁵⁰ 40 CFR 122.41.

Recommendations

DEP

- Require more frequent monitoring of discharges, including daily monitoring for large mines.
- Require monitoring during storms for all permits and for all relevant parameters, even if those parameters are not limited at the time of the sampling.
- Verify rainfall measurements to ensure that rainfall exemptions are being accurately reported.
- Conduct additional compliance monitoring to verify monitoring reports and reported “no flow” conditions.
- Require truly representative monitoring. No longer allow permittees to report “no flow” just because no flow was observed during one particular day of the month, unless this condition is representative of the conditions found over the entire month.

3.2 *Instream monitoring is not performed when it counts*

The episodic nature of precipitation-induced pollutant discharges makes it unlikely that instream data collection, without a focused storm sampling component, can accurately assess pollutant loads generated by precipitation (Gillies, 2003). While coal operations are often required to collect instream data and DEP occasionally performs its own instream sampling, the agency has performed no focused storm sampling downstream from coal mines

(Campbell and Montali, 2003). Even the recent mountaintop removal environmental impact statement did not include a storm sampling focus in its study of water quality impacts in receiving streams (Bryant et al., 2002). The bottom line: There are little or no publicly available data that accurately assess the impacts from coal mines to receiving streams, and there is no way to determine whether discharges cause or contribute to violations of water quality standards or if stream uses are protected.

“There are little or no publicly available data that accurately assess the impacts from coal mines to receiving streams, and there is no way to determine whether discharges cause or contribute to violations of water quality standards or if stream uses are protected.”

Recommendations

DEP

- Require instream storm sampling below outfalls as part of routine instream monitoring conditions in NPDES permits.
- Collect storm data below coal mining discharge points. To assess the true impacts of active mining operations on receiving streams, storm data must be collected. Independent, systematic data collection and analysis during and after precipitation events will show mining operations’ true impact on receiving streams.
- Do not write TMDL cleanup plans or assign load reductions without an accurate assessment of contributions from active mines. Only by ascertaining the true critical conditions of receiving waters, and by measuring each mine’s actual loads during a range of precipitation events, can accurate TMDLs be written.

4. CONCLUSIONS AND RECOMMENDATIONS

Many of DEP's permitting practices do not conform to those required by the CWA, and therefore do not protect our rivers and streams from pollution from coal mines. But DEP does not operate in a vacuum; EQB and USEPA also share the responsibility to ensure that coal mining operations are held to minimum federal standards. If these agencies were to simply follow the law, permitted discharges—and West Virginia's rivers and streams—would be cleaner. There are many reasons why weak permits continue to be written. Improvements must be made.

4.1 DEP

This report documents several deficient permitting practices at DEP. The agency fails to write permits that restrict the discharge of toxic metals like selenium, even when mining is likely to cause instream violations. Permit writers do not routinely assess the reasonable potential for permitted discharges to cause or contribute to violations of water quality standards. CWA mandates are ignored, such as the prohibition against permitting new loads into impaired waters before TMDL cleanup plans are developed. In addition, the agency has not followed through on its commitment to implement these river cleanup plans.

DEP's new antidegradation guidance further weakens existing procedures and will make antidegradation review a rubber stamp for dischargers. Also, counter to the fundamental goals of the CWA, the agency sanctions the use of streams for waste disposal by issuing permits for instream sediment ponds, and fails to recognize and protect all existing and designated trout streams.

Because of DEP policies, permittees' monitoring requirements are inadequate to characterize the discharges or impacts to receiving streams, especially when it rains. No focused instream storm studies have been conducted by the agency to fully characterize the impacts of mining discharges on any of the rivers or streams in coal-producing areas of West Virginia.

DEP must, at a minimum, take several steps to ensure that coal mining permits protect water quality as required by federal law:

Strengthen permits

- **Issue permits without alternative storm limitations.** Until research demonstrates that pollutant loads discharged during storms do not impair receiving waters, these exemptions cannot be justified.
- **Assign appropriate discharge limits for toxic metals.** In particular, determine which coal operations have the potential to cause or contribute to violations of the selenium criterion, and promptly issue stringent selenium limits to prevent these violations from continuing. Rather than waiting for existing permits to be renewed, immediately reopen suspect permits.
- **Do not issue new permits for discharges into impaired streams until TMDLs have been developed that include allocations for new permits.**
- **Require fact sheets to assess stream impacts and the reasonable potential for discharges to violate standards.** Fact sheets for new permits, renewals, and modifications should show calculations of WQBELs for each pollutant, demonstrate how these WQBELs will protect uses, and discuss why these WQBELs are or are not included in the draft permit.
- **In impaired waters after TMDLs are completed, promptly incorporate WLAs into NPDES permits during the next permit reissuance cycle.**

- **In unimpaired waters, calculate WQBELs for all discharges—whether or not they are existing, new, or expanded—and issue WQBELs when necessary to protect receiving streams.**
- **Evaluate sediment impacts to streams and issue WBELs for TSS where appropriate.**
- **Stop permitting new discharges from instream treatment ponds and treatment systems below valley fills, and phase out existing permits for these discharges.** Require all waste treatment to occur adjacent to, and not in, streams.
- **Protect all trout streams.** Identify all existing and designated trout uses when issuing NPDES permits by checking EQB designations and verifying uses since 1975. Require WQBELs when necessary for iron and TSS in all trout streams so that habitat and reproduction are adequately protected.

Improve monitoring

- **Ensure that enough recent data are available to determine whether receiving streams are impaired for all relevant pollutants.** Data must be collected at base flows and high flows so that each stream's true critical conditions are considered. Permits should not be issued until these data are collected.
- **Require more frequent monitoring of discharges, including daily monitoring for large mines.** Twice-per-month monitoring is not frequent enough to truly characterize the variable discharges from coal mines. Daily monitoring should also be required in watersheds where multiple mines may have cumulative impacts.
- **Require monitoring during storms for all permits and for all relevant parameters, even if those parameters are not limited at the time of the sampling.** It is important to know what is actually being discharged from coal mines. These data are crucial for determining the receiving stream's true critical condition, for making accurate 303(d) listing decisions, and for developing realistic TMDL cleanup plans.
- **Verify rainfall measurements to ensure that rainfall exemptions are being accurately reported.**
- **Conduct additional compliance monitoring to verify monitoring reports and reported “no flow” conditions.**
- **Require truly representative monitoring.** No longer allow permittees to report “no flow” just because no flow was observed during one particular day of the month, unless this condition is representative of the conditions found over the entire month.
- **Require instream storm sampling below outfalls as part of routine instream monitoring conditions in NPDES permits.**
- **Collect storm data below coal mining discharge points.** To assess the true impacts of active mining operations on receiving streams, storm data must be collected. Independent, systematic data collection and analysis during and after precipitation events will show mining operations' true impact on receiving streams.

Other recommendations

- **Consider enforcement actions.** When violations of the selenium criterion can be directly linked to a permitted discharge, enforcement actions may be warranted.
- **Implement antidegradation in a manner that is consistent with federal law.** Do not weaken West Virginia's illegal antidegradation rules by issuing faulty guidance, which would turn antidegradation reviews into rubber stamps for business as usual.
- **Do not write TMDL cleanup plans or assign load reductions without an accurate assessment of contributions from active mines.** Only by ascertaining the true critical conditions of receiving waters, and by measuring each mine's actual loads during a range of precipitation events, can accurate TMDLs be written.

4.2 EQB

EQB plays a key role in setting water quality standards, the underpinning of all permitting decisions. However, standards for coal-related parameters do not meet federal guidance or protect stream uses. The board should:

- **Ensure that all water quality criteria comply with federal guidance, or provide sound scientific reasons why other criteria are valid for West Virginia.** Criteria must be based on 304(a) guidance from USEPA or other scientifically defensible methods.⁵¹ EQB must ensure that all criteria comply with requirements of the CWA.

4.3 USEPA

Federal regulations for coal mines exempt most coal mining operations from meaningful discharge limits when it rains, and are based on USEPA's lenient interpretation of the CWA. To promote better permitting practices in West Virginia, the agency should:

- **Review federal effluent limitation guidelines for coal mining and remove the alternative storm limitations.** The failure of coal TBELS to protect water quality during precipitation necessitates removing these exemptions. Improved treatment systems should be required to ensure that water quality standards are met.
- **Disapprove West Virginia's pH, turbidity, iron, manganese, and aluminum standards, and promulgate new standards that are consistent with federal guidance.**

4.4 Citizens' groups

About 90 grassroots watershed organizations are active across West Virginia; many of these groups are dealing with pollution from coal mining. These citizens have a major stake in improving permitting practices so that permits for coal mining operations truly protect local rivers and streams.

Grassroots organizations often hold a wealth of knowledge about local water issues; focusing in more detail on the technical and policy issues surrounding coal mining NPDES permits will allow them to participate more effectively in NPDES permitting processes. Citizens' groups can take the following actions:

Gather background information

- **Identify NPDES permits for coal mines in the watershed.** Try an online search on DEP's Web site, or a Freedom of Information Act request to DEP. The West Virginia Rivers Coalition and the Appalachian Center for the Economy and the Environment can help with technical, legal, or policy questions.
- **Identify all known or listed trout streams in the watershed.** West Virginia's water quality standards includes a list of known trout waters. The West Virginia Division of Natural Resources conducts periodic fish monitoring and maintains an updated list. The West Virginia Chapter of Trout Unlimited, as well as local anglers, have a wealth of local, up-to-date information.
- **Identify all streams in the watershed on the 303(d) list for AMD-related impairments.** DEP must develop TMDL cleanup plans for these streams.
- **Get copies of all completed AMD TMDL cleanup plans in the watershed.** TMDLs may include stricter permit limits for coal mining operations.
- **Determine if coal seams in the area are likely to be high in selenium.** Check the West Virginia Geologic and Economic Survey's Web site.⁵² If high selenium coal seams are found, ask DEP to

⁵¹ 40 CFR 131.11.

⁵² www.wvgs.wvnet.edu/www/datastat/te/SeHome.htm.

require water quality–based limits for selenium and to require selenium monitoring of permitted discharges and of the receiving stream.

Collect detailed information

- **Examine permits to ensure that discharge limits protect the uses of local streams.** At the very least, permits must protect existing uses and those uses designated by the State. All known or listed trout streams, including any stream that has supported trout since 1975, must be afforded special protections.
- **Collect permit monitoring data and compare it with permit limits.** Permit monitoring data are submitted monthly to DEP in discharge monitoring reports, and can be examined at DEP or requested under the Freedom of Information Act. Get these data for permits of interest, and ensure that permit limits are being met. Note when permittees report “no flow” and when they fail to submit their data.
- **Ensure that permit violations are enforced.** DEP can enforce all permit limits through a number of mechanisms, including fines. Any organization or individual can also force permittees in violation of their permits to comply through the CWA’s citizen suit provision.⁵³
- **Gather instream data to check that dischargers are not causing violations of water quality standards.** Instream data may be submitted by permittees to DEP as one component of their discharge monitoring reports. DEP, university researchers, or others may have also collected useful local data. Consider starting a local citizen monitoring program. Compare instream data to state numeric and narrative criteria to ensure that the uses of the stream are being protected.
- **Collect downstream data during precipitation events to see if water quality standards are being violated.** Most discharges from surface mines occur when it rains, and dischargers and DEP are responsible for ensuring that water quality standards are met downstream. Consider testing for iron, aluminum, manganese, and sediment during rainfall events. If resources allow, hire a professional to design and implement a focused rainfall sampling study of your watershed.
- **Periodically collect macroinvertebrate data to help evaluate the biological integrity of streams.** Insects and other organisms that can be seen with the naked eye, called benthic macroinvertebrates, can suggest whether or not a stream is degraded, even if current chemical conditions do not show water quality standard violations.
- **Install a simple rain gauge on your property and record daily rainfall amounts.** Match these data against permittees’ discharge monitoring report data to ensure that dischargers do not try to take advantage of alternative precipitation limitations when no rainfall, in fact, occurred. Also check that permittees do not report “no flow” during periods of high rainfall, when it is likely that discharges are, indeed, occurring.

Participate in the NPDES permitting process

- **Comment on new, reissued, and modified local permits.** Base your comments on the background information and detailed data collected according to the previous recommendations. You may decide to provide monitoring data, even if you think DEP is already aware of it. Make sure that permit writers are aware of any violations that have occurred over the last few years. Request WQBELs for parameters where data show even one violation of the applicable criterion in the receiving stream. Be especially careful about discharges to trout streams.

⁵³ 33 U.S.C. § 1365.

4.5 Summary

While DEP has committed to some improvements in the way coal permits will be written in the future, permits still will not comply with the mandates of the CWA. It is too early to tell if improvements will actually decrease the amount of pollution coming from coal mining operations.

Truly protective permits will only be written when adequate monitoring fully characterizes mining discharges and their impacts to receiving streams. Protective permits will also only be written when DEP, EQB, and USEPA improve state water quality criteria, antidegradation implementation procedures, and guidelines for issuing effluent limitations to ensure that coal mining operations are held to CWA standards.

Changes in permitting policies at DEP to conform to existing laws are also necessary to ensure that the coal mining industry is held accountable for its water pollution just as every other industry in the country. Improvements will take political will, commitment, and leadership.

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