

# Mitigation Banks in Mine Permitting and Reclamation

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*Editor's note: A version of this article appeared in the magazine Mining Engineering, November 2017.*

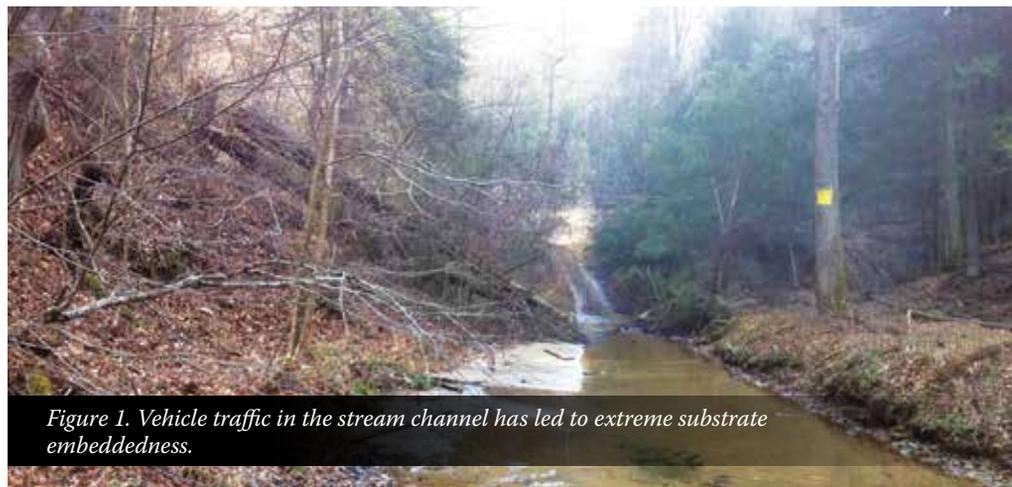
**M**ining companies need to be flexible and seize favorable market opportunities for their products. Therefore, many companies face the challenge of obtaining mining and environmental permits in a timely manner to capitalize on the prospects. Another challenge that often arises during mine design and planning is compensating for unavoidable impacts that the mine is anticipated to have on the natural environment. These two challenges can hinder mining companies from moving forward quickly and, all too often, the circumstances that were favorable when the project was proposed have become less favorable by the time all the permit requirements and approvals have been cleared. Therefore, most mining companies are interested in quicker ways to gain environmental permits, shorten timelines, and be more certain of obtaining the permits to carry out their next project. One increasingly popular way to do this is through a relatively new kind of service: the mitigation bank.

Mitigation banks typically purchase property or easements through property that were previously degraded and impacted by agricultural, industrial, or resource disturbance activities (Figures 1 and 2). The bank establishes a baseline of the degraded property, restores it to a functional environment with reclamation contractors, and then estimates the functional environmental uplift which produces credits.

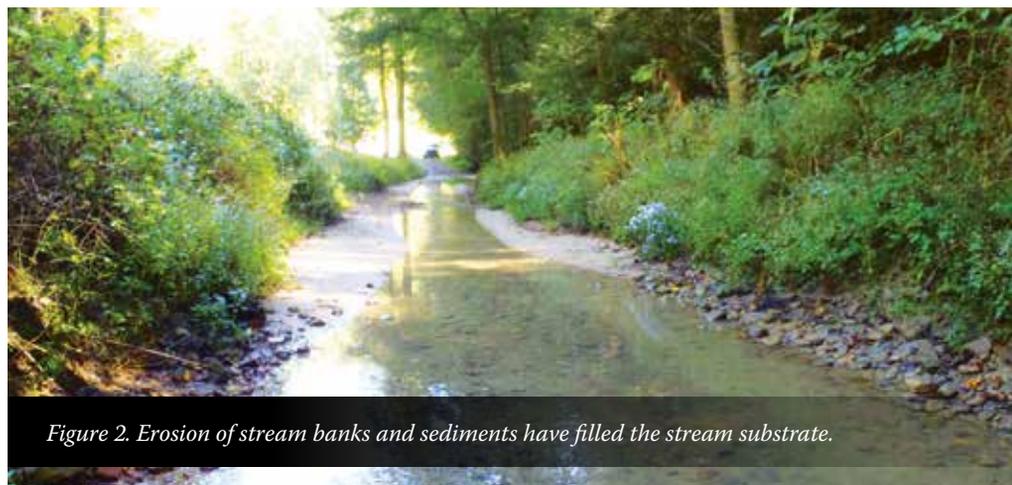
Normally, the disturbed areas are reclaimed to restore streams and wetlands so that fish and aquatic

organisms can survive, and to provide ecosystem services such as wildlife and riparian habitat (Figures 3 and 4). Appropriate native species of plants including trees and shrubs are planted, and steps may be taken to introduce wildlife to the new habitat. In some cases, a special focus is placed on creating habitat for rare and endangered species of plants or animals.

The reclaimed property is then inspected by regulatory authorities, coordinated through an Interagency Review Team (IRT). If the property is determined to be effective as natural habitat, the site is entered onto the list of mitigation bank properties and is allocated credits based on the functional environmental uplift of the chemical, biological, and physical conditions anticipated upon maturity of the site. These credits, held or owned



*Figure 1. Vehicle traffic in the stream channel has led to extreme substrate embeddedness.*



*Figure 2. Erosion of stream banks and sediments have filled the stream substrate.*

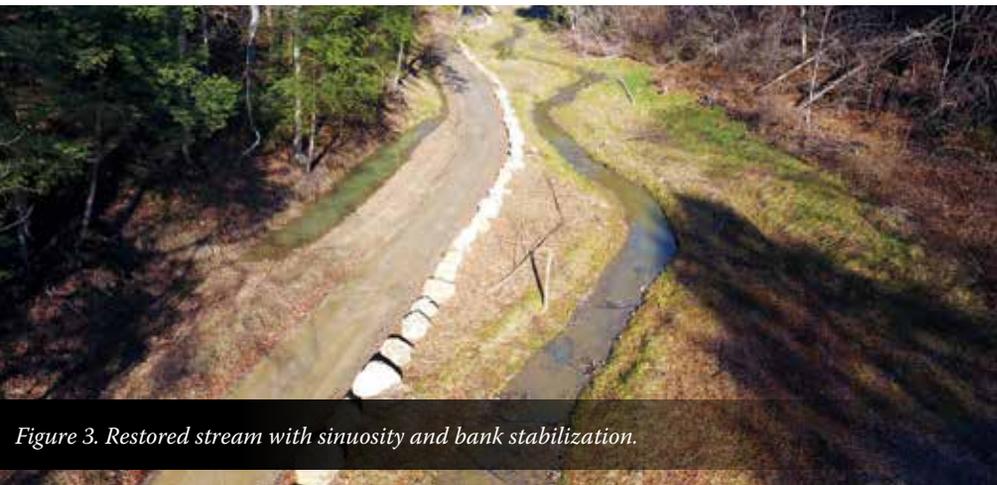


Figure 3. Restored stream with sinuosity and bank stabilization.

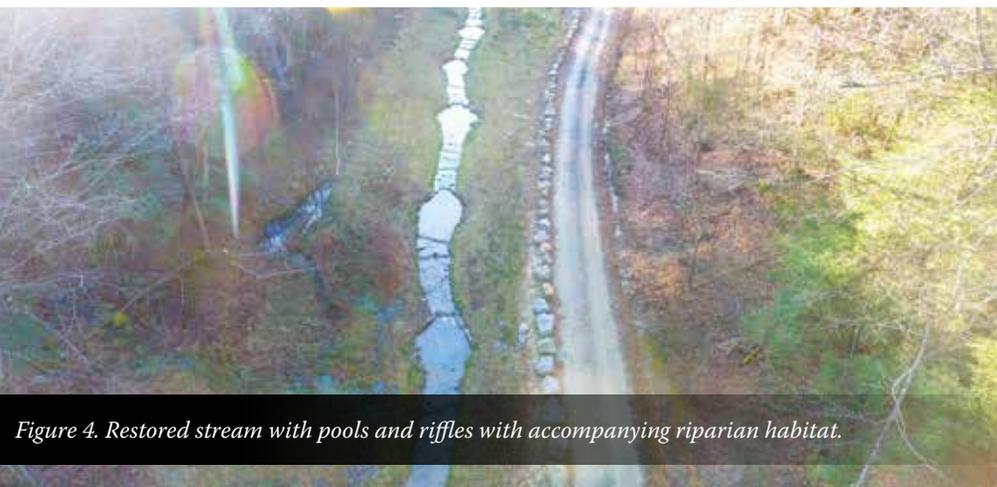


Figure 4. Restored stream with pools and riffles with accompanying riparian habitat.

by the mitigation bank, can then be sold to mining companies or other entities, who need “credits” when causing an unavoidable permitted environmental impact elsewhere.

For example, a mining company constructing an access road across a stream that may cause a permitted environmental impact would buy credits to offset the aquatic impacts to the stream as required by the Section 404 Clean Water Act permit that governs those unavoidable aquatic impacts. The mitigation bank used for offset credits must have an IRT-approved service area that includes the location of the impacts.

The mitigation bank is required to monitor the site(s) yearly to determine site reclamation success. Yearly monitoring reports are provided to the U.S. Army Corps of Engineers. In West Virginia, the protocol used for determining

reclamation success or environmental uplift is called the West Virginia Stream and Wetland Valuation Metric.

### Why Regulatory Authorities Prefer Mitigation Bank Credits

In many ways, mitigation banks offer advantages over the original do-it-yourself (permittee responsible) mitigation route, which would see the mining company creating its own credits and then seeking regulatory approval for those credits. The problems with do-it-yourself approaches include:

- Lengthier process – Creating offset credits can take years, often due to the need to provide eight or more years of site-specific data regarding species found in the area to be affected.
- Uncertainty in the process – Providing their own offset credits introduces

uncertainty into the costs and timelines of the company’s project, as the offset projects may be rejected by environmental inspectors/regulators.

- Continued responsibility – If a permittee does its own mitigation and it fails, that company is liable to re-do the mitigation, incurring expense and effort and more time.
- Regulatory pressure – Regulators may place very close (and time-consuming) scrutiny on any offset projects that the mining company creates itself.

By contrast, there are many advantages to working with mitigation banks.

Regulators prefer to work with mitigation banks (or other In-Lieu Fee programs) because a contract called an Umbrella Mitigation Banking Instrument (UMBI) governs the terms and conditions of the project. For instance, the UMBI contains more than 20 items that must be described in the agreement, including: 1) service area definitions, 2) accounting procedures, 3) legal responsibilities, 4) reporting protocols, 5) goals and objectives, 6) maintenance requirements, 7) performance standards, and 8) credit release schedules. An instrument generally requires one or two years to receive approval. Here are additional advantages:

- Legal requirements – The 2008 Mitigation Rule, which agencies must follow, states that mitigation bank offset credits are the most preferred method of mitigation, and that the least preferred are mitigation steps for which the permittee (such as a mining company) is responsible.
- Time savings – Data from the U.S. Army Corps of Engineers’ permitting database indicates that while it takes an average of 122 days to obtain a Clean Water Act permit using a mitigation bank, it takes an average of 237 days for mitigation done off site by the permittee to obtain the same permit.
- Cost savings – The fixed costs of restoration projects owned by the mitigation bank are spread out over many credits, reducing the price per credit. Buying credits saves up-front costs because the money is expended for a guaranteed product that has pre-met all regulatory compliance. Conversely, do-it-yourself mitigation

requires many up-front costs for an uncertain outcome.

- Liability transfer – Perpetual liability for the mitigation is transferred to the mitigation bank when a credit is purchased, while with permittee-responsible credits, the liability stays with the company causing the environmental impact.
- Focusing on your company's strengths – Using a mitigation bank means that the mining company can focus on what it does best – extracting mineral resources – rather than investing time and money in reclamation projects that may or may not meet their mitigation needs. By using a mitigation bank, the mining company is assured that the credits purchased represent approved natural habitat restoration by companies that specialize in land and water reclamation for environmental benefits.

## Getting Good Results from Mitigation Banks

### Select an appropriate bank

Your first step is to find a mitigation bank that meets your needs. Factors to consider include a bank that has:

- Credits in the same service area as your intended project (check with regulatory authorities to see if the credits available will be applicable to your project).
- A good track record of doing work that is considered acceptable by regulators and providing credits when and where they are needed.
- A healthy pipeline of projects that can be expected to produce credits which are available when you need them.

To find such a bank, it is best to start by asking for recommendations from colleagues. Environmental and engineering firms may be able to make recommendations, advise you on how to choose a mitigation bank, and work with it to achieve your objectives.

And check the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) for information, an online resource developed by the U.S. Army Corps of Engineers with

support from the EPA, the U.S. Fish and Wildlife Service, the Federal Highway Administration, and NOAA Fisheries.

### Start early

Mining companies may want to put their focus on delineating an ore resource and developing their extraction plan early in the project development phase, rather than expending effort on mitigation and the holdups associated with environmental permitting. Therefore, having prior relationships with a mitigation bank could help to minimize the time and process to mitigate anticipated impacts.

Mitigation banks and mining companies have something in common: long planning horizons. It can take years from the start of exploration to putting the first load of coal or ore through the mill, and remediation and restoration of habitat can be similarly lengthy. This means that it is important for mining companies to consider forward-buying and reserving of credits several years into the future so that those credits will be available when needed.

### Be prepared to shop around

While the credits themselves are a commodity, the price is variable. Some areas have many mitigation banks, driving down the price per credit; in others, scarcity pushes the price up. The price

of the credits must be factored into the start-up costs for the mine, but those costs can be considered firm, unlike the costs of some commodities needed for mining.

### Build a partnership

These long planning horizons mean that it is appropriate for the mining company to build a long-term relationship with a mitigation bank. This includes working with the bank to build good stakeholder relations. In addition, using a mitigation bank can also create good community relations. The newly-restored habitat near the mine may be made available to the public for uses such as hunting and fishing. The mitigation bank may have employed local contractors and companies to do the work including operators of heavy equipment as well as for crews to help vegetate the restored property. These jobs, and the economic spinoffs, are particularly valued in areas impacted by the scaling-back of the coal industry.

Mitigation banks, with more than a decade of experience and an increasingly strong track record, are a new tool for mining companies – a tool that holds promise for the future.

**For more information, please contact the authors at:**

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