

Mitigation Planning Association: A Cooperative Option to Meet Section 404 Compensatory Mitigation Requirements

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INTRODUCTION

This document was prepared as part of a grant from the Powell River Project. The objective of the project is to describe how coal mining companies might cooperate to form a mitigation association to provide compensatory mitigation required as a condition of receiving a Section 404 and related state permit. A mitigation association would be an independent organization created exclusively to coordinate and/or provide compensatory mitigation for a group of mining companies who are members. A mitigation association is warranted if it can to enhance the environmental success of compensatory mitigation projects and assure their cost-effectiveness.

Several alternatives for a mitigation association were prepared as part of a preliminary report. Based on comments requested from industry representatives and federal and state agency staff, a single organizational design was prepared in detail and is described in this document. This document describes one particular design -- a “mitigation planning association”. The primary objective of a mitigation planning association would be to work with member mining companies, watershed groups, and regulatory agencies to identify a portfolio of compensatory mitigation project plans for its members. The individual companies would then use those plans to meet their compensatory mitigation requirements. This option was identified by industry representatives as having potential to be feasibly adopted and to achieve economic and environmental benefits. Since the mitigation planning association is a modification of existing permittee supplied mitigation, it could also be implemented within the existing set of regulatory mitigation guidelines.¹ The potential advantage of this arrangement is that it might offer a ways to improve the quality and reduce the cost of permittee-provided compensatory mitigation.

The development of the mitigation planning association idea was based on a review of similar cooperative organizations to meet regulatory obligations under the Clean Water Act and a series of telephone interviews and meetings with company officials and regulatory agency staff. An initial set of interviews, conducted during the spring of 2005, provided important insights about the situation facing industry and regulatory agencies and explored ideas about the possible purposes and organization of an association.² Based on this input, a concept paper, “Options for a

¹ New draft mitigation rules are scheduled to be announced during the Spring of 2006. When the rule is finalized, the mitigation planning association concept will need to be revised for consistency with the final rule.

² Those interviewed as part of this process from industry include Jim Corsaro, Danny Cox, Larry Emerson, John Jones, and Carlos Smith. Conversations with personnel from government agencies include Annette Poore, Palmer Hough, Tim Landers, Morgan Robertson, and Bob Brumbaugh.

Compensatory Mitigation Association” was developed by the principal investigators that identified three options for the design of a mitigation association. This document was circulated to industry representatives, regulatory officials, conservation organizations, and private mitigation banking representative in the summer and fall of 2005.³ In December 2005, a meeting of company officials and consultants was held to discuss the various mitigation association options. Based on a consensus opinion, the group recommended further development and discussion of the mitigation planning association option (described here).

The outline of the report is as follows. The first section summarizes the compensatory mitigation needs facing industry and possible challenges to greater cooperation within the industry. The next section describes the mitigation planning association. This section identifies the services that might be provided by the mitigation planning association, the possible benefits from might arise from an association, and the possible ways an association might be organized. The content of this report is not meant to reflect the policy of any company or regulatory agency. Instead, the document will serve as a basis for discussion among stakeholder groups about the merits, opportunities, challenges and barriers of using different mitigation association options to cost effectively meet Section 404 regulatory requirements.

After additional comments will be solicited, a final report will be produced. The goal of the process is not to reach a consensus on the desirability of implementing a mitigation planning association. Rather, the goal is to strive to develop and refine workable plans for a mitigation planning association and to begin a dialogue between industry, the regulators, and affected stakeholders to refine and further development of the concept. If the various parties find merit and opportunity in a mitigation association option(s), then this project would be a beginning, rather than an end, to an implementation process.

EXISTING SITUATION, CONCERNS, AND CHALLENGES

Background

In 2003, coal production in Eastern Kentucky, West Virginia, and Virginia totaled nearly 280 million tons, or about one quarter of total U.S. coal production.⁴ Coal mine operations are an important part of the regional economy. In many counties in the southern Appalachian region, coal mining comprises more than 25 percent of the value of all economic output.⁵

The coal industry is a highly competitive industry. The industry has also been characterized by boom-bust cycles driven by substantial price swings in the coal and energy markets and aggressive production responses to high prices by coal producers. The industry

³ Comments were received from Katherine Trott, Bob Brumbaugh, Annette Poore (U.S. Army Corps of Engineers); Palmer Hough, Tim Landers, Morgan Robertson (U.S. Environmental Protection Agency); Les Vincent (Virginia DMME); and Rich Mogensen (EarthMark).

⁴ Department of Energy, Energy Information Agency, “Annual Coal Report 2003”, Washington DC. http://www.eia.doe.gov/cneaf/coal/page/acr/acr_sum.html

⁵ University of Kentucky Center for Business and Economic Research "A Study on the Current Economic Impacts of the Appalachian Coal Industry and its Future in the Region" Lexington, Kentucky, 2001.

exhibits considerable variation in firm size and type, but total coal production tends to be concentrated with a relatively small number of larger companies. In the late 1990s, the largest⁶ 20 coal producers mined about 70 percent of all U.S. coal. It should be noted that in many instances the coal mining firms do not own the mineral rights or the land where coal is mined. In the Appalachian region, land holding companies often lease coal reserves to mining firms in exchange for royalty payments. After the coal is mined, ownership and control of the reclaimed mine land remain with the land holding companies.

A number of different mining processes are used to extract coal in the region. Surface coal mining operations requires the excavations or cuts in the surface material in order to expose and extract coal. During this process, excess rock and soil (overburden) must be relocated. To a lesser extent, deep mining operations also face challenges of depositing excavated material. While this material may be replaced after the coal has been extracted, some excess material might need to be deposited elsewhere. Sometimes the excess overburden might be deposited in valleys (called valley or hollow fills). In the process, ephemeral, intermittent, or perennial streams might be filled or otherwise negatively impacted.⁷

Section 404 of the Clean Water Act requires a permit, administered by the Corps of Engineers, to discharge or deposit of fill material into the waters of the United States, including ephemeral, intermittent and perennial streams. The Section 404 (b)(1) Guidelines require permit applicants to demonstrate that proposed projects have been designed to avoid and minimize adverse impacts to waters of the U.S. when practicable. Further, applicants are required to provide compensatory mitigation to offset unavoidable adverse impacts to the aquatic environment. Thus, the regulatory framework acknowledges the legitimacy of surface coal mining in the Appalachian region, but will approve of mining activities that impact aquatic environments only after minimizing and then compensating the public for the resulting impacts.

While impacts to waters of the U.S. are regulated under Section 404 of the CWA, coal mining activities are regulated under the Surface Mining Control and Reclamation Act of 1977 (SMCRA). SMCRA establishes reclamation requirements on all mined lands. SMCRA also established an Abandoned Mine Lands Funds (AML). The AML fund is used to reclaim mine lands that were abandoned prior to 1977. Many of these abandoned mine lands were not reclaimed and may pose human health risks (ex open mine portals, unstable highwalls, etc) as well as impose negative environmental impacts (ex. acid mine drainage, stream sedimentation). The AML program is funded from a per ton fee placed on all mined coal, but funds are insufficient to reclaim the current list of abandoned mine sites. Under a priority system that places emphasis on the elimination of human health hazards, it is estimated that it may take 50 years in many areas to reclaim dangerous abandoned mine features (related to health only).⁸

⁶ Department of Energy, Energy Information Agency, “Coal Industry Annual 1997”. Washington DC.

⁷ Water flows in an ephemeral stream only after rain events. Ephemeral streams are located above the water table. Intermittent streams have continuous flow only during certain times of the year. Intermittent streams are fed by both rain runoff and seasonal groundwater discharge. Perennial streams flow continuously throughout the year.

⁸ U.S. Department of Interior, “Abandoned Mine Lands Reclamation”
www.doi.gov/partnerships/abandoned_mine_land.html

Under the Section 303(d) of the Clean Water Act, regulatory agencies are also required to identify waters that fail to meet state water quality standards (so-called TMDL program or total maximum daily load). Regulatory agencies are also required to identify the cause of the violation and to establish plans for achieving water quality standards. While the TMDL program may or may not directly impact existing mining operations, many areas in the coal region have waters on state TMDL impaired lists. The range of water quality impairments in the Appalachian coal mining region are diverse, but waters listed on state TMDL lists frequently include impairments due to elevated fecal coliform levels (from inadequate human sanitization or livestock) and impacts associated with mining activities (particularly acid mine drainage and high sediment loads from unvegetated/unstable land from abandoned mine lands). Resources to address many of these types of impairments are often limited.

Section 404 Compensatory Mitigation: Current Regulatory Issues and Concerns

Currently most compensatory mitigation conducted under Section 404 is done on or near the permitted mine site (“on-site”) by the mining company. Furthermore, the compensatory mitigation is typically “in-kind”. In-kind mitigation aims to closely match compensatory mitigation with the type of permitted impact. For stream impacts related to mining activity, in-kind compensatory mitigation typically includes projects designed to increase aquatic resource functions through physical improvements in aquatic habitat in stream beds. Some forms of out-of-kind mitigation, on the other hand, may improve aquatic resources by improving water quality conditions (ex reducing effluent discharge from acid mine drainage or household waste from straight pipes) or by restoring upland conditions that lead to direct improvements in water quality conditions (ex. sediment stabilization).

Responsibility for providing compensatory mitigation, by and large, is provided by the same applicant that is responsible for the permitted fill or impact. The mining industry has not made widespread use of in-lieu fee programs or private commercial mitigation banks to fulfill their compensatory mitigation obligations. To date, the mining industry has been able to identify a sufficient number of on-site, in-kind projects to meet the compensation requirements for most of their permitted Section 404 impacts. Partly to expedite the permitting process (see discussion below), industry officials often express a strong desire to do as much mitigation as possible themselves on or near the permitted mining site.

As sites near the permitted areas are restored, it was generally acknowledged by most of those interviewed from industry that identifying acceptable on-site projects will be more challenging in the future. Additional options will need to be available to mining companies that operate in areas that do not have an adequate amount of on-site projects. If a mitigation association is to improve compensatory mitigation, then a mitigation association must be able to address a number of issues described below. Every issue, if adequately addressed, could offer benefits to the industry and could, in principle, also improve the ecological outcomes of compensatory mitigation, thus producing benefits to both industry and the public.

Regulatory Uncertainty

The mining industry faces significant uncertainties in the permitting process surrounding compensatory mitigation projects. Recent court action and changes in state and federal

regulatory guidelines makes it more difficult to build stable expectations for designing and constructing mitigation projects that will be approved as compensatory mitigation under Section 404. Such uncertainties tend to increase mitigation costs and limit industry incentives to improve the environmental effectiveness of compensatory mitigation.

An example of such uncertainty often mentioned during the interviews was related to risks associated with proposing a “watershed-based” approach toward compensatory mitigation. A watershed-approach is often advocated as a way to assess the current stressors and impairments to achieving key aquatic functions and resource objectives within a watershed (National Research Council 2001). Conceptually, compensatory mitigation could be targeted within the watershed to locations and projects that would produce the greatest improvement toward achieving those watershed objectives. By this definition, such an approach requires thinking about a “portfolio” of potential restoration activities that might extend beyond the immediate vicinity of the permitted impacts to jurisdictional waters (on-site) or involve more diverse set of projects than restoring physical instream habitat (in-kind).

Industry officials consistently noted the financial risks of “doing anything watershed based.” As the compensatory mitigation moves off-site and out-of-kind, the risk and cost of gaining regulatory approval of the mitigation project increases. This risk arises from regulatory challenges to gain agreement among various government agencies, and from technical uncertainties about how to relate permitted impacts to compensatory mitigation (for example replacing lost physical habitat with improved water quality conditions). Consequently, compensatory mitigation currently being pursued is based on the narrow range of options that have a reasonable chance of being approved in the regulatory process. Such a narrowing of mitigation options increases costs to industry and diminishes the potential environmental benefits of compensatory mitigation projects.

Timeliness and regulatory approval costs

The time and cost of gaining regulatory approval of compensatory mitigation was consistently cited as an important issue for industry. Given the expense of regulatory approval, industry officials noted that there is a desire to avoid small, case-by-case individual projects. Treating compensatory mitigation as a series of modest size mitigation projects increases the regulatory approval costs to both regulatory agencies and industry. Furthermore, industry officials also noted that any deviations from on-site, in-kind projects lengthens permitting times and increases permitting costs.

Timeliness in permitting is important in a competitive industry such as coal. Small compensatory projects that are individually permitted tend to be costly to both regulatory agencies and permittees. Opportunities to increase the size of compensatory mitigation projects have the opportunity to reduce permitting costs. Successfully implemented larger compensatory mitigation projects that incorporate adequate and appropriate mitigation also would have larger, more tangible regional environmental benefits.

Advanced mitigation can expedite the permitting process while improving the ecological benefits of compensatory mitigation. One possible way to encourage investment in compensatory mitigation before actual permitted impacts includes the use of mitigation “carryforward.” Currently, and in the past, some Corps districts have been willing to acknowledge the creation of surplus mitigation at an on-site location. For example, a company

might have 500 feet of impact from surface mining activity but their compensatory mitigation project provides 800 feet of compensation. If one foot of compensation is required for every foot of permitted impact, then this particular mitigation project created a surplus of 300 feet. This surplus mitigation could then be applied to a future permitted impact to reduce permitting costs to both industry and the agency. Such mitigation carry-forward has been used for individual compensatory mitigation projects for a single company and have a limited “life-span”.⁹

Additional Compensatory Mitigation Options

Currently most companies are meeting their compensatory mitigation requirements on-site and in-kind. Many companies believe that these options will become more costly and difficult to achieve in the future. Allowing more flexibility to move offsite or out-of-kind, could lower compensatory mitigation costs and improve chance for ecological success. Some Corps districts are exploring or willing to consider out-of-kind mitigation (gob piles, sediment stabilization, etc), but these are still the exception. Some concern was also expressed about identifying future compensatory mitigation projects and sites. As current on-site projects are identified and constructed, sites for new compensatory mitigation projects will need to be identified. Continued participation from larger landholding companies, individuals, organizations will facilitate this process.

Industry Cooperation

A potential challenge of using a mitigation association as an approach to improving compensatory mitigation comes from within the industry. Historically, coal companies tend to operate independently, with minimal cooperation on common problems. This competitive and independent setting partly explains the often stated preference for companies to maintain control of “their own mitigation.” However, there is some evidence that companies can cooperate to solve common problems. Several examples were provided during interviews as to how companies have cooperated to jointly fund research of specific regulatory issues (ex. revisions to certain water quality standards or specific TMDL studies).

COMPENSATORY MITIGATION PLANNING ASSOCIATION

Overview

The primary responsibility of a mitigation planning association would be to identify a suite of potential mitigation projects for its members. The association itself would *not* construct compensatory mitigation projects and would *not* be approved as a mitigation bank under current Corps mitigation banking policy and guidance. Rather, the overall objective would be to develop a “portfolio” of *individual project plans* that would be considered acceptable compensatory mitigation by state and federal agencies. The projects identified by the association could serve to place mitigation into an overall watershed approach aimed at improving aquatic functions and achieving community watershed goals. Once plans are developed, the individual mining companies would still be required to obtain the relevant 404 permit and be legally responsible for

⁹ Such “carry-forwards” are not called “credit banking” because regulatory recognition of these surplus credits does not occur under existing mitigation banking rules.

fulfilling the compensatory requirements of that permit. The mitigation planning association, however, might also coordinate and monitor implementation progress.

A mitigation planning association would be made up of individual companies who voluntarily elect to form and join the association. Member companies, while competitors in the coal market, would share an interest in identifying possible compensatory mitigation projects in common geographical regions where they mine coal. While a mitigation association may be organized in a number of different ways (see last section for one example), in general the member coal companies would pay dues to finance the planning activities of the association. Additional companies may also elect to be members. For example, the involvement of landholding companies would be critical to the success of the association. A future concern expressed by some company officials is access to future potential mitigation sites. Involving large landholding companies in association activities could offer more opportunities to identify and develop environmentally beneficial and low cost compensatory mitigation projects.

Critical to the success of a mitigation planning association would be the involvement of local or regional watershed groups or related organizations. Such groups would provide assistance and guidance in identifying possible mitigation projects and creating community and political support for restoration efforts. While such groups may not be formal members of the association, the association can be designed to work closely with and help support the watershed planning roles and functions of local watershed groups. The possible roles and contribution of association members will be explained in more detail below.

The association itself would be an independent organization governed by its members. The overall responsibility of directing the activities of the association would rest with a board of directors. The board of directors could consist of representatives from each of the companies that are members of the association. The companies would also pay membership dues which would be used to finance the association planning activities. Other members of the association, like landholding companies and watershed/community groups could also be full members and serve as directors. The work of the association could be accomplished by association staff, in-kind contributions from its members, or outside contractors. Consultants that are already working on mitigation plans and who are familiar with regulatory personnel and issues might work with the association to carry out a portion of the planning activities.

Services of a Mitigation Planning Association

The mitigation planning association would produce compensatory mitigation plans that are consistent with and support local/regional watershed plans and planning activities. The planning by the association will identify compensatory mitigation projects that have a high potential for individual success and improving the aquatic environment in the watershed where the fill permit is issued. If successful, the association would produce a portfolio of project plans that the association members can use to fulfill their compensatory mitigation requirements.

To develop such a portfolio of mitigation project plans, the association might engage in different levels of planning. At the broadest level, the mitigation planning association would identify watersheds and locations in watersheds areas with high restoration potential and develop a general, tentative list of possible mitigation projects. This can be called scoping level planning and includes the first three elements in Table 1. The targeted watersheds might be area with significant degrees of habitat degradation or water quality impairments. Many areas with high

restoration potential might already be partially identified through TMDL lists (303d lists) or AML sites (those that do not pose human health risk but nonetheless are causing ecological damage). The association would need to work cooperatively with regulatory agencies to ensure agreement on the appropriate geographical range for compensatory mitigation projects.

During the scoping level planning, the mitigation planning association could coordinate with local or regional watershed groups and agencies to identify possible compensatory mitigation projects (activity 3 in Table 1). Such groups might have existing watershed plans that identify local water quality goals, water quality problems, and general implementation strategies that could address these problems. A mitigation planning association can work with these groups/agencies to identify specific projects that could be used as compensatory mitigation and would also achieve the objectives of the local watershed plan. In addition, the association might rely on local watershed groups with localized knowledge to help identify priority problems in watersheds even if there is no formal watershed planning process. The association might also work with local watershed groups to develop watershed plans with the expectation that some activities identified in the implementation plan might become part of the portfolio of compensatory mitigation plans of the association.

The type of compensatory mitigation projects considered would be responsive to and consistent with the watershed level plan. Thus, compensatory mitigation projects identified by the association could include structural habitat improvement projects (similar to on-site projects now being constructed) as well as sediment stabilization, streambank/riparian buffer projects, and/or water quality improvement projects (reducing discharge of key effluents into waterbodies). Given the objective of the mitigation planning association, the type of project plans developed would necessarily be those that would have high chances of counting as compensatory mitigation for 404 mining related impacts.

At this point the association would need to secure agreement from the appropriate regulatory agencies about which of the identified mitigation project plans would be acceptable for compensatory mitigation (activity 4, Table 1). Thus, existing and future Corps policy regarding out-of-kind and off-site projects would bear directly on the portfolio of compensatory mitigation projects developed under an association plan. It might be reasonable to expect, however, that regulatory agencies would be more willing to accept a greater range of compensatory mitigation projects if individual projects were developed within a larger set of existing watershed objectives, with community involvement/support and within a comprehensive plan.

Table 1: Planning Activities to Develop a Portfolio of Mitigation Project Plans

Planning Activity.	Description
1. Assess Permit Needs	Identify expected collective impacts on the watershed from permitted activities and the type of aquatic resources being adversely impacted (ephemeral, intermittent or perennial streams or wetlands).
2. Geographic Scope	Description of the geographic range for acceptable compensatory mitigation given needs identified above
3. Assess Watershed Needs or Plans	Identify aquatic resource stressors and watershed goals in the restoration areas. Use watershed plans; work with watershed groups, and resource agencies to identify possible compensatory mitigation projects to address local watershed stressors and goals.
4. Identify Acceptable Project Plans	From possible projects above, work with regulatory agencies to identify mitigation projects plans (place and type) acceptable as compensatory mitigation.
5. Individual Restoration or Enhancement Project Plans	Select and develop a set of project plans (portfolio of plans) that serve the mitigation association members but consistent with watershed needs and agency consent.

The above planning activities are all undertaken for the purpose of identifying a set of compensatory mitigation projects plans that can be constructed and used by member companies to satisfy compensatory mitigation requirements (activity 5, Table 1). This activity could include identification of specific project sites and a list of general remediation/construction activities that will be undertaken to improve the aquatic resource. Individual compensatory mitigation plans within the portfolio, however, could involve various degrees of detail.

The different levels of detail that could be included in individual project plans are listed in Table 2. The level of detail depends on the needs and desires of the member companies. Not all of the activities in Table 2 would need to be conducted for the planning functions of a mitigation association to benefit its members. In general, the more detail included in the individual project plans, the greater the planning costs incurred by the association and the greater the contributions required of its members. On the other hand, a greater the upfront investment in developing project plan details may lower costs and speed permit approval when individual member companies enter the permitting process.

The project review process that the mitigation planning association establishes with the regulatory agencies (Table 1, activity 4) might be important in determining how far to proceed in developing the mitigation project plans. This process and interaction would provide the association feedback on what level of detailed development for the individual projects would be likely to be accepted as a compensation proposal for a particular permit applicant. For instance, the mitigation planning association could set up a review process similar to those used by in lieu fee programs or in the review of private mitigation banks (MBRT-like processes). However, because the association is not a mitigation bank and the compensatory mitigation plans at this stage would not represent an individual company's required compensatory mitigation, this review would not necessarily have to go through a formal MBRT process. The basic need,

however, would be to set up a constructive review and planning process with the agencies to get tentative agreements on the acceptability of project plans for compensatory mitigation.¹⁰

Table 2: Possible Elements of Individual Compensatory Mitigation Project Plans

Planning Activity	Description
1. Project Site, Baseline	Description of project site and existing and probable future ecological conditions of the mitigation sites in absence of any compensatory mitigation projects.
2. Project Design	Detailed, specific work plans for the identified compensatory mitigation project, that might include project boundaries, construction methods, construction timetables, etc.
3. Performance Standards	Identification of ecological performance standards for determining when project would be deemed successful by regulatory agencies.
4. Monitoring Plan	Plan to determine progress toward, and attainment of, performance standards.
5. Site Protection	Identification of any necessary instruments or plans for maintaining and protecting the site after achievement of performance standards.
6. Credit Determination	Description of the analytical procedures and scientific rationale for calculating the total amount of mitigation credits produced by the project (necessary to relate impacts to compensation).
7. Post-Construction Monitoring	Coordinate and provide for watershed group assistance and involvement in monitoring achievement of compensatory mitigation project success criteria

Regardless of the level of detail in the project plans, the coal companies themselves (not the association) would be fully responsible for implementing any project identified within the portfolio, as a condition of a permit. Individual companies would use the plans developed by the mitigation association, but still be responsible for constructing the project, and then assuming liability that the compensatory mitigation project is successfully completed. The individual company would still provide any financial assurances associated with the compensatory mitigation project, and the regulatory agencies would still make a determination of the number of mitigation credits needed for the specific permitted impact. Thus, the regulatory responsibility for the project itself would continue to rest with an individual permittee and in this sense would be similar to existing mitigation practice in the region. Since legal responsibility over the compensatory mitigation is not transferred from the individual company to the mitigation association, the association itself would not be required to go through the Corps' mitigation banking review process.

¹⁰ Conceptually, the mitigation planning association performs the similar functions as the planning functions undertaken in an in lieu fee program. The fundamental difference is that the mining companies themselves conduct and complete the restoration work themselves. Unlike an in lieu fee program, the companies would be responsible for successfully completing the compensatory restoration project.

Benefits of a Mitigation Planning Association

The primary benefits of a mitigation planning association would be: better match between compensatory mitigation projects to local watershed needs; improve the timeliness of the permitting process; and reduce the cost of compensatory mitigation permitting.

The mitigation planning association provides a forum for individual mining companies, landholding companies, and watershed organizations to jointly coordinate efforts to meet both watershed goals and compensatory mitigation requirements. Such coordination can provide the public with more assurances that resources are directed to projects and areas that will address the most important watershed needs. Given the current social and political climate surrounding surface mining in Appalachia, suspicion and mistrust of mining company activity from some groups is high. The strong support and involvement of local and regional watershed groups not only provides important input into watershed needs and potential restoration projects, but these groups also provide community and political support for restoration efforts. Such involvement may help to overcome risks and uncertainties associated with implementing more watershed-oriented approaches to compensatory mitigation.

A mitigation association might increase opportunities to build support for compensatory mitigation projects among a more diverse group of stakeholders. Individual companies might have to negotiate individual arrangements with landholders for each project. Working as a group to identify larger, more comprehensive sets of activities, an association might be able to gain efficiencies by working with large landholding companies to gain access to potential mitigation sites. The ecological benefit of this approach would be that compensatory mitigation efforts are targeted to achieve important watershed restoration goals. Furthermore, working as a group, mining companies might also have a better opportunity to build community and local support for compensatory mitigation projects. Promoting compensatory mitigation in the regulatory process as a well planned, coordinated set of actions (rather an isolated mitigation project) would produce appreciable and visible restoration benefits to the local community. The development of compensatory mitigation plans within the context of attempting to achieve regional and watershed goals might give member companies greater flexibility to use “out-of-kind” projects as compensatory mitigation (potentially lowering construction costs and increasing ecological benefits).

The coordination and flexibility could substantially lower compensatory mitigation costs. For example, evidence suggests that close adherence to in-kind compensatory mitigation projects can substantially increase mitigation costs. In addition, watershed scale planning might offer greater opportunities to expand the size of restoration projects.¹¹ Larger restoration projects might not only produce more tangible environmental improvements, but will likely reduce the unit compensatory mitigation costs (linear feet of stream, acres of wetlands) through economies of scale.¹²

¹¹ Having the mining companies do the construction of the mitigation projects might also lower costs over those that might be provided in an in lieu fee program. With equipment and skilled personnel already mobilized in the field, the mining companies may be able to complete project construction at a fraction of the cost that a public agency might achieved working through independent private contractors.

¹² J. Bonham and K. Stephenson. *In-Lieu Fee Programs Under Section 404 of the Clean Water Act for Coal Mining: Analysis of Restoration Costs and Alternatives*. Virginia Cooperative Extension Publication 448-259/REAP R061,

Compensatory mitigation planning costs could also be reduced through similar economies of scale. A mitigation planning association would be responsible for synthesizing the mitigation planning needs of multiple companies in a single planning effort. The mitigation planning association might also be able to leverage planning expertise by combining and coordinating watershed assessment and planning activities of multiple smaller watershed organizations. The watershed planning activities might also produce side benefits in terms of meeting or addressing other regulatory needs beyond Section 404.¹³ In short, operating within an overall watershed plan with multiple individual compensatory mitigation projects would be less expensive than developing the same compensatory mitigation projects separately by individual companies or watershed groups.

The association's planning process can serve a valuable "regulatory screening" process that could expedite the permitting process when individual companies seek regulatory approval of individual compensatory mitigation projects. The association will develop a portfolio of compensatory mitigation projects consistent with local watershed planning efforts and with consultation and advice from regulatory agencies. Watershed groups could facilitate this process by drawing on existing knowledge and watershed planning activities. Although mitigation specific plans might not be subject to regulatory approval in the planning process, the association can work toward general agreement "in concept" of the compensatory mitigation projects. This upfront work with regulatory agencies has the potential to reduce the time and costs of securing 404 related permits when impacts do occur.

A mitigation planning association might also be able to provide greater public assurances that compensatory mitigation projects meet project success criteria. As described above, the mitigation association could facilitate and coordinate greater involvement of local watershed groups in post construction compensatory project monitoring. Regulatory agencies often have limited resources to monitor progress to achieving compensatory project goals. Watershed group monitoring could provide "backstop" monitoring for the regulatory agencies. If individual companies are able to cooperate with watershed groups, more monitoring tasks could be shifted from companies to watershed groups who have a direct incentive to see the compensatory mitigation projects succeed.

The benefits that might occur from a mitigation planning association could be achieved at a reasonable cost and without substantial risk for member companies. The mitigation planning association could provide coordination benefits in way that might be viewed as feasible by an industry with little history of cooperation. The mitigation planning association maintains distinct separation between companies regarding their compliance with regulatory permitting requirements. Further, the planning activities conducted the association could be accomplished at a relatively low cost (compared to construction and permit compliance costs). Thus the total financial exposure of any member company forming or joining a mitigation planning association would be modest and limited. Financial exposure of any individual company is further limited

2005.

¹³ For example, consider the total maximum daily load program under Section 303(d) of the Clean Water Act. Given advanced planning, association members might avoid formal TMDL proceedings if the Association identified stressors and fixed the problems ahead of development of a TMDL on an impaired stream.

because the association is a voluntary organization. The association by-laws would always contain opt-out clauses for any company that wishes to absolve its membership in the association.

There are potential downside risks of a mitigation planning association. The principle risk involves gaining regulatory approval of a specific compensatory mitigation project once the mitigation association plans are complete. The earlier discussion highlighted the uncertainties surrounding watershed-like approaches to compensatory mitigation. The mitigation association could prepare a comprehensive set of projects that meets local watershed objectives and the plans might have community support and be favorably view by regulatory agencies in concept. Yet, when time comes for actual construction, an individual company may be unable to gain regulatory approval to use an association-identified project for compensatory mitigation. The regulatory agency may determine that a compensatory mitigation projects under the association plan are inappropriate for the specific fill activity or elect to impose mitigation ratios so high as to make the project prohibitively expensive. It should be noted that these risks are also present under existing practice. The relevant question to ask is to what extent are these downside risks reduced by the use of a mitigation planning association. Furthermore, the mitigation planning association will only offer benefits to member companies if regulatory authorities do not substantially restrict the geographical area that permittees can construct compensatory mitigation projects. If the regulatory authorities strictly apply preferences for on-site mitigation, the benefits to company coordination will be small.

Another possible challenge to a mitigation association might be incompatible incentives between the mining companies and watershed groups. Mining companies have a direct financial incentive in meeting their compensatory mitigation obligations in a least cost way. Watershed groups, however, have a direct interest in leveraging as many resources as possible to complete as much restoration work as possible. These incentives can directly conflict if, for example, watershed organizations arguing for increases in mitigation ratios. Mining companies will have few incentives to form and fund such an association if the watershed groups view the association as a funding source rather than as a mechanism to meet specific permitting needs.

Illustration of a Mitigation Planning Association

A mitigation association could be regional, state, or multi-state in scope. For an association to operate, there must be multiple companies operating (and willing to form an association) within the geographic region approved for the compensatory mitigation. Thus, a few companies might have substantial and multiple compensatory mitigation needs within a specific geographic region (a larger watershed region). In this case a mitigation association could be formed to develop watershed based compensatory mitigation needs based these specific area. A more expansive version would have the association coordinate compensatory planning activities of its members on a state or multi-state boundaries.¹⁴

Involvement of local/regional watershed groups or environmental organization(s) and landholding companies is critical to the success of a mitigation planning association. However,

¹⁴ Broader coordination does not imply that compensatory projects would be used to mitigate impacts across river basins or across states. This idea just recognizes that a planning association could coordinate member activities within specific basin in the state or across states.

the type and level of participation in the association decision-making by the non-mining interests is an open question. The fullest involvement in the mitigation association would be to invite non-mining companies to serve on the board of directors. For example, inviting large landholding companies to be a full member of the association and serve on the association's board of directors would be a logical and perhaps necessary step to achieving the objectives of the association.

Membership of a nongovernmental organization, such as a local/regional watershed groups, would depend on the relative merits of their membership. Full membership of any organization would depend on level of propriety information the association might discuss, the planning and regulatory expertise of an outside organization, and the degree of community support that can be generated by an outside organization.

More likely, local/regional watershed groups would develop a cooperative working arrangement with a mitigation association rather than full membership. In some areas local watershed associations are instrumental in developing and implementing local watershed plans. Such organizations would provide the companies in the mitigation association with critical insights into watershed needs and compensatory project ideas. However, most local watershed associations are small. There maybe a large number of local watershed associations in existence within the geographic region that the mitigation association is seeking compensatory mitigation. Furthermore, most local watershed associations are made up volunteers with no paid professional paid staff. Coordinating or involving all local watershed groups within the scope of the mitigation association may be difficult. In such cases, larger umbrella organizations might be used to represent and coordinate the activities of smaller watershed groups with those of a mitigation association. For reasons explained above, the involvement and support of state and federal regulatory agencies is also critical to the success of a mitigation association.

Given this situation, a mitigation association might form and sponsor an "advisory committee" for its planning activities (see Figure 1). The advisory committee would consist of representatives of the watershed associations, other nongovernmental organizations, and the relevant state agencies. For example, in West Virginia the planning and implementation activities of local watershed associations are coordinated through the Department of Environmental Protection (DEP). The state watershed coordinators help local watershed groups secure funding and expertise to develop plans. Agency staff in this program could, if willing, to serve as a coordinator and information broker between local watershed groups and the mitigation association on such an advisory committee. A regional NGO could serve a similar function if there is an ongoing relationship with local watershed groups. An advisory committee would also benefit from the involvement of agency personnel responsible for 404 related permitting. This involvement would help identify early on in the planning process possible project that would be acceptable as compensatory mitigation as well as help identify and provide guidance shoot any unresolved issues (crediting of out-of-kind projects for instance).

Financing a Mitigation Association

The system for paying for the planning activities of the association could be set up in a number of ways. One financing option would be to simply establish annual membership dues for all association members. Membership dues could be based on a single annual flat fee rate, or based on total tons of coal mined each year by each of its members. The fees of non-mining

members of the association might also be waived since the mission of the association is to provide compensatory mitigation plans and assistance to permit applicants.

Another financing option might collect general membership dues to pay for association administration and oversight, but develop a separate financing mechanism among association members to pay for the development of specific compensatory mitigation plans. In this option, the overall association would identify watershed objectives, geographic scope of activities, and probable range of future mitigation needs (expected future permitted impacts). The association would also work with members and regulatory agencies to identify general watersheds (specific HUC classifications) where sufficient compensatory mitigation activities exist (Activities 1, 2, 3 in Table 1). These coordination tasks would be completed under the direction of the overall association and association members (paid for by membership dues) would share costs of these general planning activities on a proportional basis. Individual member companies that constructed a specific project under the plan, however, could reimburse the association for the costs of developing specific project plans (Table 2). As individual companies construct specific mitigation projects, companies could reimburse the association for a portion, or all, of the costs to develop the site specific plans.

Figure 1: Possible Mitigation Planning Association

