Appalachian Stream Mitigation Workshop

April 11-15, 2011
Lexington, Kentucky

The Appalachian Stream Mitigation Workshop was presented by the U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (Corps), and the U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE) and the U.S. Fish and Wildlife Service (FWS). The objective of the Workshop was to present information that will allow regulatory and resource agencies to improve their review of compensatory stream mitigation plans and to generate productive discussions among the various regulatory agencies about the challenges associated with mining site mitigation and the types of on-site and off-site mitigation that are most successful in offsetting unavoidable impacts. The workshop was developed for state and federal regulatory and resource agencies who review, comment on and/or approve compensatory mitigation plans for surface coal mining projects in Appalachia.

In April 2008, the EPA and the Corps published a rule to establish standards and criteria for the use of compensatory mitigation to offset unavoidable impacts to waters of the United States, including wetlands and streams. The fundamental objective of compensatory mitigation is to offset environmental losses resulting from unavoidable impacts to waters of the United States authorized by Clean Water Act Section 404 permits issued by the Corps. Since implementation of the Mitigation Rule and since June 2009 when a federal interagency MOU was signed and EPA, Army and DOI committed to strengthening the review of surface coal mine projects in Appalachia, improving the ecological success of stream mitigation has been identified as a priority.

The workshop included an overview of the 2008 Compensatory Mitigation Rule and requirements of the Surface Mining Control and Reclamation Act (SMCRA), and then focused on general stream processes and assessment methodologies that may be used to establish baseline physical, chemical, and biological function and condition of streams. Several presentations discussed natural stream channel design techniques, valley fill design alternatives that may improve ecological success, identifying specific goals and objectives in mitigation plans and establishing specific performance standards by which to measure ecologically successful mitigation. Most presentations included real-life examples and lessons learned in association with all mitigation types, including banks, in-lieu fee programs and permittee-responsible mitigation.

The workshop emphasized the watershed approach for mitigation and discussions focused on how compensatory mitigation decisions should be made that result in mitigation projects that support the sustainability or improvement of aquatic resources in a watershed. Discussions focused on the challenges associated with compensatory mitigation projects that are constructed

on mining sites after reclamation, and the types of on and off-site mitigation that may be most successful in offsetting unavoidable impacts. The workshop emphasized the importance of coordination between the various federal and state agencies and allowed participants to discuss potential approaches for applying new advances in the science of stream mitigation and to explore opportunities to create better mitigation plans based on the watershed approach.

Participants were encouraged to rate the relevance and usefulness of all topics, as well as the quality of all presentations. Generally, evaluations were favorable and participants suggested the need for additional workshops including:

- A workshop on stream design and/or restoration of altered hydrology on previously mined areas, including a field component;
- A workshop on the differences between SMCRA and CWA reviews, including compliance and enforcement activities;
- A workshop that translates complex physical, chemical, and biological science-based information into practical, reasonable performance standards and permit conditions;
- A hands-on workshop reviewing mitigation plans including site visits

For more information please contact the organizers:

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Appalachian Stream Mitigation Workshop Overview

OBJECTIVE: To present information that will allow regulators and resource agencies to improve their review of compensatory stream mitigation plans. This workshop is for state and federal regulatory and resource agencies, who review, comment on and/or approve compensatory mitigation plans for surface coal mining projects in Appalachia.

DAY 1: Welcome and Mitigation Rule

Welcome

2008 Compensatory Mitigation for the Losses of Aquatic Resources Final Rule

DAY 2: SMCRA and Stream Processes

SMCRA's Requirements for the Protection of Streams

Local Working Agreements and the TN SOPs

General Stream Principles

Assessing Streams in Appalachia

Functional Objectives for Stream Restoration and the Stream Functions Pyramid

DAY 3: Stream Assessment, Design, and Restoration

Functional Assessment Methodology Validation

Water Quality Assessment and Management

Development of the WV Stream and Wetlands Valuation Metric

Application of the WV Stream and Wetland Valuation Metric

Regional Curve Development and Use in Stream Restoration and Hydrologic Assessment in High Gradient Headwater Streams

Natural Stream Channel Design Techniques and Review

Goal Setting, Performance Standards and Monitoring For Stream Mitigation

Deed Restrictions/Conservation Easements and Appropriate Considerations When Perpetual Protection Is Not Provided

DAY 4: Mining Practices, Onsite Mitigation, Long-term Protections, and Case Study

Opportunities and Limitations for Water Quality Improvement and Stream Restoration under SMCRA

NWP 49 Overview and Application

Appalachian Regional Reforestation Initiative (ARRI) and Principles for Establishing Ecologically Successful Riparian Corridors

Valley Fill Design and Construction Alternatives to Improve Ecological Performance

Removal and Restoration of In-Stream Sediment Ponds

SMCRA-CWA Coordination in the Field

Breakout: Group Review of Projects

Large Group Review of Considerations and Recommendations

DAY 5: Off Site Mitigation and Summary Considerations for Stream Mitigation in Appalachia

Off-Site Mitigation Options

Considerations for Stream Mitigation in Appalachia

Workshop Wrap-Up