AQUATIC RESOURCES MANAGEMENT, LLC

29 November, 2010

United States Army Corps of Engineers
Louisville District
845 Sassafras Creek Road
Sassafras, KY 41759-8806

Re: DNR# 836-0407

Dear Reviewer,

Please find enclosed one (1) original copy of the Second Year Monitoring report for the Salyers Branch Mitigation site.

Should you require any more information upon your review of this package or require a site visit feel free to contact me at 859-388-9595 or by e-mail at nbaker@aquaticresources.us.

Sincerely,

Nick Baker
Vice President and Environmental Scientist

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YEAR TWO MONITORING REPORT
UNITED STATES CORPS OF ENGINEERS
Salyers Branch Mitigation
KDNR PERMIT NO. 836-0407

Laurel Mountain Resources, LLC.

Prepared:
December 28, 2011

Prepared by:

Aquatic Resources Management

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Laurel Mountain Resources, LLC.
Salyers Branch Mitigation
Year Two Monitoring Report

Project Overview

This report is to notify the United States Army Corps of Engineers (USACE) of the completion on two full growing season for the Laurel Mountain Resources, LLC (LMR) Salyers Branch Mitigation site. This USACE permit is an Individual Permit associated with LMR Permit #836-0407. Aquatic Resources Management is the agent responsible for conducting the monitoring and producing reports on behalf of LMR. The inspection date of the field visit was conducted on November 30, 2011.

Purpose of the Approved Project

This mitigation project was conducted to offset stream impacts associated with LMR's 836-0407 mining project. Stream impacts occurred from the surface mining method of extraction of coal reserves. Five hollow fills were necessitated by this method to contain all overburden as well as four in-stream ponds needed to control and treat the sediment runoff. The hollow fills associated with the mining project will permanently impact approximately 400 linear feet of intermittent stream and 1,385 linear feet of ephemeral stream. The in-stream ponds will temporarily impact 1,320 linear feet of intermittent stream. Utilizing the Eastern Kentucky Stream Assessment protocol the mitigation determined for the associated impacts to this permitting action equates to 1,065 linear feet of intermittent stream mitigation. The Salyers Branch mitigation will provide the structural and functional aspects which were lost at the mining impact site.

Site Location

Salyers Branch is located approximately one miles west Hueysville on Salyers Branch Road in Floyd County Kentucky. The latitude and longitude of the project is 37° 30' 45" and -82° 52' 27" respectively on the David/Martin USGS quadrangles. Salyers Branch is located in the Levisa Fork watershed Hydrologic Unit Code (HUC) 05070203.

Mitigation Commencement and Completion Dates

Construction on Salyers Branch mitigation site was completed in August of 2008.

Performance Standards

After two full growing seasons of post construction completion, nearly all performance standards are being met with the exception of tree survival rate. The restoration activities have decreased the amount of sediment entering the stream from the past impacts, improved bank stability, created macroinvertebrate and fish habitat, as well as achieved vertical and lateral channel stability. Additional tree plantings are necessary along the riparian corridor to achieve full potential within the mitigation reach due to a lower than required (80%) survivorship. This issue will be corrected in the dormant season of 2012. Overall the restoration activities have achieved channel stability with enhanced fish and macroinvertebrate habitat.

Requirements

The requirements as stated in the approved Clean Water Act Section 404 permit are as follows; Mitigation efforts will be implemented by the applicant using their own qualified equipment operators to conduct the mitigation plan under Best Management Practices. The stream morphology will be deemed successful when the proposed structures are constructed in the approximate location proposed in this mitigation plan. Stream stability will be examined for successful erosion controls. The erosion controls will be considered successful if the stream and proposed stream structures are stable laterally and vertically. The limits of the mitigation sites will be delineated and flagged with surveyor's stake to indicate restored reaches.

The vegetation will be maintained at an 80% success rate for native species in the riparian corridors. It is also anticipated that natural succession of native species will occur on-site in the riparian zones. Non-native and invasive species will be kept to less than 20% overall on the project restoration area.

After stream restoration standards have been met for all areas the applicant or consultant will be responsible for conducting annual monitoring reports to inform the Louisville District of the United States Army Corps of Engineers of progress. The applicant is obligated to maintain the project area mitigation by following requirements set forth by DSMRE and USACE. Monitoring and maintenance of the mitigation site will continue until final mitigation approval is achieved.

The compensatory mitigation project site is successfully achieving the standards set forth in the approved USACE permit. As stated, the aforementioned tree plantings will be performed by LMR to meet performance standards. The Rapid Bioassessment Protocol demonstrates trends toward the stated mitigation goals

in Table 1. Pre-mitigation and predicted Year Five RBP habitat parameters were not available for this monitoring report.

Table 1:

Salyers Branch Mitigation Monitoring						
RBP Habitat Parameters	**Pre-mitigation**	**Year One**	**Year Two**	**Year Three**	**Year Four**	**Predicted Year Five**
Epifaunal Substrate	N/A	13	13			N/A
Embeddedness	N/A	13	13			N/A
Velocity/Depth Regime	N/A	15	15			N/A
Sediment Deposition	N/A	12	12			N/A
Channel Flow Status	N/A	13	13			N/A
Channel Alteration	N/A	12	12			N/A
Frequency of Riffles	N/A	10	13			N/A
Bank Stability (both)	N/A	15	16			N/A
Veg. Protection (both)	N/A	15	16			N/A
Riparian Width (both)	N/A	15	13			N/A
Total Habitat Score	N/A	133	136			N/A

Summary Data

The success of the project is based on the stabilization of the stream as well as the creation of fish and macroinvertebrate habitat, and improved riparian function. The year-one and year-two post mitigation scores are listed in Table 1 above. Pre-mitigation and predicted Year Five RBP habitat parameters were not available for this monitoring report. The table shows the general trend toward the stated goals in the compensatory mitigation plan. However, mitigation that is not meeting the stated standards is the riparian survival rate. Additional tree

plantings are necessary along the riparian corridor to achieve full potential within the mitigation reach. This issue will be corrected in the dormant season of 2012.

The Salyers Branch stream restoration project had various challenges to overcome to ensure its success. One of the major challenges was designing and reconstructing natural stream channels that would achieve vertical and lateral channel stability from channels affected by the sediment ponds. LMR was able to remedy impacts by utillzing natural stream design methodologies to restore the pattern and profile, plus re-grading for native riparian species plantings thus improving habitat along the stream banks which served as immediate riparian erosion control as well as providing stream canopy cover. Instream structures were installed at designed intervals within each segment to increase sediment transport and create macroinvertebrate and fish habitat. The more natural stream design, coupled the establishment of a natural floral community, will not only maintain and enhance stream bank stability, but enhances the recolonization of macroinvertebrate and fish communities as well. Survey equipment was utilized throughout this process to ensure proper results were obtained.

Pictures of the mitigation site illustrating the current condition (figures 1-6), as well as the map showing the locations of the photos (figure 7), and site location map (figure 8) are provided.

Figure 1 Looking Upstream Upper Reach 11/30/11 Pic. 897

Figure 2 Looking Upstream Upper Reach 11/30/11 Pic. 896

Figure 3 Looking Upstream Middle Reach 11/30/11 Pic. 894

Figure 4 Looking Upstream Middle Reach 11/30/11 Pic.

Figure 5 Looking Upstream Lower Reach 11/30/11 Pic. 888

Figure 6 Looking Upstream Lower Reach 11/30/11 Pic. 887

Conclusions

The Salyers Branch mitigation site is meeting all performance standards with the exception of tree survival rate and structure stability. LMR will return to the site, plant more trees, and perform necessary maintenance during the dormant season of 2012. Once these conditions are corrected, the mitigation site will continue to trend toward the stated mitigation performance standards in the approved Clean Water Act Section 404 permit. In the case that future problems do arise, LMR and/or a consultant will devise a strategy to ameliorate the issue.