Eastern PA Coalition for Abandoned Mine Reclamation

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September 2011 Progress Report

Highlights:

- EPCAMR staff met with 3 Wilkes U professors, HBPS rep., OSM staff and EC Staff related to outreach/education. Attended a Catawissa Creek QHUP meeting and corresponded with Luzerne County Commissioner to help with an AMD problem.
- EPCAMR staff met with OFBH Project Partners on site to download transducer data and monitor flow at the Duryea Outfall
- EPCAMR staff sampled 14 boreholes in the Lackawanna Valley and 20 in the Wyoming Valley. Georeferenced 2 maps, updated 2 GIS databases, filled 1 iron oxide order and sent 1 contact list to EPCAMR partners.
- EPCAMR Staff started work on the Solomon Creek Plan and Jeddo Highland #5 projects.
- Updated www.epcamr.org, and www.treatminewater.com. Administered the EPCAMR facebook page and Google Apps for Nonprofits account.

Education and Outreach:

- Continued to review votes from the AMR Conference Committee to award scholarships to conference attendees that requested them. Only representatives for non-profit organizations were eligible and the scholarship paid for up to 2 overnight stays at Genetti Inn and Suites in conjunction with the AMR Conference last month in Hazleton.
- Provided Gwen Johnson, Foundation for PA Watersheds, with a list of watershed groups that watershed groups can use for project implementation as per her request. Now that EPCAMR is using the Insight.ly Google App it is much easier to organize our massive contact list into something searchable to make custom lists like this.
- Answered a question posed by Megan Blackmon, Schuylkill Headwaters Association, on how much chalk she would need to make approximately 30 - 3" pieces of chalk. I estimated that one ounce should do (2 packets from our EPCAMR store).
- EPCAMR staff met with Julie McMonagle, professor at Wilkes University and Penn State Wilkes-Barre, to brainstorm ideas for a tour of abandoned mine drainage (AMD) and abandoned mine lands (AML) in the southern Wyoming Valley.
- Processed Abandoned Mine Reclamation (AMR) Conference Scholarships and sent to awardees.
- Created EPCAMR Program Manager monthly report for the previous month, gathered other staff reports, posted them to www.epcamr.org and sent to PA Department of Environmental Protection (DEP) 319 Nonpoint source (NPS) program staff.
- EPCAMR staff met with two Wilkes University professors conducting a water monitoring study relate to the Marcellus Shale Gas Industry development in Northeastern PA. Provided them with a RAMLIS 11 GIS Tool CD since they were interested in the Susquehanna River Basin Commission (SRBC) Anthracite Remediation Strategy Water Quality Database and other stream quality layers.

- Found and scanned AMR Conference materials for 2000 and 2001 to PDF and posted them to the www.treatminewater.com website.
- Transferred the epcamr.org domain to EPCAMR's GoDaddy.com account from Brandon Gray Internet Services. This was done to consolidate the domain names into one place and to save on service fees. Also, once we get up to 6 domains on one account, we will see bulk savings when renewing them (savings will then be passed on to our members as well).
- Filled an iron oxide order and sent it to the North Fork Watershed Association in West Virginia. Cleaned up the iron oxide processing station that had become a bit messy from many orders being filled lately.
- EPCAMR staff met with Ray Clarke, Huber Breaker Preservation Society, to review and scan photos of the Ashley Plane, Wilkes-Barre & Hazleton Railroad and falls Solomon Creek (the Millie, Rocky and Sandy).
- EPCAMR staff stopped by the Office of Surface Mining office in Wilkes-Barre to see what was not being taken to other offices and to see what we could use at the EPCAMR office. There were several pieces of equipment and office supplies that we listed in an e-mail request to staff at the Pittsburgh office that are dealing with the surplus. EPCAMR is a non-profit and a member of OSM's TIPS program making it easier to sign the unwanted property over, but we still will have to go through a paperwork exercise to make everything legitimate. Met with staff a week later to see what else was available.
- Met with Earth Conservancy staff about the possibility of transferring webhosting to EPCAMR. Currently they are paying $20 a month for webhosting and e-mail services. They also pay approximately $30 a year for their domain name reservation. I explained how they could save money as a member organization if they switched to webhosting with EPCAMR and e-mail with Google Apps (Gmail for non-profit businesses). We could also renew their domain for half price and suggested that they use WordPress for their website format. The switch could be implemented in stages if that is preferable. No decision was made.
- Traveled to Schuylkill Conservation District office to meet with both Columbia and Schuylkill County Conservation District staff, PA DEP BAMR Wilkes-Barre Office staff, Skelly & Loy and representatives from Catawissa Creek Restoration Association to discuss the development of a Qualified Hydrologic Unit Plan (QHUP) for the Catawissa Creek Watershed. Skelly & Loy was retained through a Trout Unlimited Technical Assistance Grant (TAG) to conduct the study. EPCAMR staff were also awarded $3K from the Rivers Conservation Plan Implementation Grant through the Pennsylvania Environmental Council (PEC) to assist in the process.
- EPCAMR staff received a call from County Commissioner Urban asking why there was mine drainage pouring out of storm sewers near Kirby Park and what could be done to stop it. We have noticed on occasion (especially in after storms) the Woodward borehole (#39) near the Kirby Park parking lot will discharge on to the sidewalk and street, staining them orange. This happened of course with the recent flood event, but the water has not subsided yet. Initially EPCAMR staff sent along a hydrograph of the borehole which shows water elevations since the late 1970's to present day and an excel sheet containing the location of other monitoring boreholes in the Lackawanna and Wyoming Valleys as a part of the Borehole Awareness Campaign. Further investigation was requested.

Technical Assistance:

- Created charts of the Old Forge Borehole (OFBH) transducer data to compare depth to pressure and sent to PA Tectonics, Lackawanna River Corridor Association (LRCA) and Susquehanna River Basin Commission (SRBC) staff. Also sent Sibley borehole data to LRCA staff and board members who plan to use it to predict flow of borehole based on water level in this borehole when the transducers are removed.
- EPCAMR staff met with LRCA staff to gather flow data at the Duryea Outfall and download transducer data from the Old Forge Borehole. Flow calculated at the Duryea Outfall at 6,909 gallons per minute (gpm) or approximately 15.3 cubic feet per second (cfs). Compared to the

SRBC Anthracite Strategy Water Quality database, it was lower by about ½ than the average flow from 1983 to 1999. A general downward trend was noticed in the OFBH transducer data.

- EPCAMR staff spoke with Dan Koury, PA DEP Pottsville District Mining Office (DMO), about the Mine Pool Mapping grant and recent report completion.
- Reviewed a report from Skelly and Loy reviewing the recommendations for treatment of the Askam Borehole from the Army Corps of Engineers (ACOE) report. The report recommends a modified wetlands treatment system to enhance aeration with a Maelstrom Oxidizer and reduce the overall footprint needed to settle out iron. The ACOE and Skelly and Loy reports both agreed that it should be used. The treatment system is currently being designed by PA Association of Conservation Districts (PACD) engineers for the Earth Conservancy.
- Corrected CalcFlow.xls MS Excel spread sheet used to calculate flows gathered in the field. Imitated the Rantz, et al Method in the formulas to find a flow at each 1ft station across the river and add up. Rantz also recommends recording the flow on streams less than 3-4 ft deep at 60% of the depth. Rewrote the instructions for collecting flow in the Field Binder as well.
- As the Susquehanna River was rising to a height of 38' (later we find out it crested at 42.66' due to an inundated gauge) on September 8th, EPCAMR staff decided to do a round of borehole sampling in the Wyoming Valley. Surprisingly only 3 boreholes out of the 23 were unreachable and considered to be at or above surface level. The water levels in the boreholes ranged from about 2 to 15 feet above last month's reading.
- EPCAMR staff traveled around Scranton to complete a monthly round of testing the water level in 14 boreholes in the Scranton Metropolitan Mine Pool. Copied these values (and the Wyoming Valley Boreholes) to an excel spreadsheet setup to calculate the depth of water into water levels based off the surface elevation of the boreholes.
- Aided EPCAMR Executive Director in transferring the money collected from PayPal credit card and debit transactions from the AMR Conference to the EPCAMR account.
- EPCAMR staff walked several miles of the Solomon Creek mainstem from Carey's Patch to the Millie Dam (just upstream of the I-81 overpass). This section of stream seemed to be of fairly good water quality and macro invertebrate populations were present despite its listing in the DEP's Non-Attaining Integrated List of Waters (formerly the 303(d) list).
- EPCAMR intern, Justyna, continued to digitize Highland #5 mine cross sections near the Jeddo and Eckley. Drew lines of section on the base map in R2V and over a GeoTiff that was georeferenced and rectified in ArcGIS. Processed the Jeddo cross sections and base map with "skips scripts" and earthVision to construct a 3D model of the mines in the area. Came to a discovery that the faults, synclines and anticlines were not matching up well and that the lines of section on the base map were incorrectly lined up and definitely did not end at the edge of the map. Had to devise a way to find out where they started and stopped. Ended up measuring known distances that were visible both on the cross section and the base map, then measured the distance from a know feature to the edge of the cross section and solved for the distance to the end (or beginning) of the line of section on the base map. Updated the base map lines of section file, re-ran the scripts and earthVision processes. The process was lengthy, but the resulting corrected grid lined up geologic features much better. One section was still incorrect, but was the result of an error in reading distances on a cross section of very poor image quality. This was evident and later corrected as well. Something with the conversion process also placed the elevations 1500 ft below what they should be. This was easily corrected by adding this factor to all the scattered data for the top and bottom of each coal vein using OpenOffice Calc, an open source software freeware spreadsheet program (opening in MS Excel actually corrupted the files). The resulting grid placed the mines in the proper space and elevation in comparison to a digital elevation module (DEM) of the surface in the correct datum (UTM Zone 18 North, North American Datum 1927 & Elevations in Feet).
- Posted the Mine Pool Mapping Report to http://epcamr.org/home/current-initiatives/mine-pool-mapping-initiative/

- EPCAMR staff stopped by the LRCA office to pick up the laptop and download dongle for the transducers at the Old Forge Borehole. Came back the next day to download the data.
- Received a notification from Host Gator that our account had been temporarily suspended due to over activity on our website. The e-mail indicated that some settings should be tuned up to reduce traffic and additional processes that weren't necessary. After a discussion with their support staff, I was able to shut down many non essential processes on the old CPG Nuke EPCAMR archive site. The archive site is a very database heavy site that uses many files and processes to display each page. The same processes that made it very secure and less "hack-able" are now causing it to slow down performance of the new WordPress site. I will be working over the winter to convert the archived pages from the CPG Nuke format to the WordPress format and delete the old site completely from the web server.
- Followed up with Adele Holtzman, Schuylkill Headwaters Association, who was having problems posting a PDF to their website. The PDF was showing up as a link to download (which is how WordPress handles a PDF normally). She ended up creating an image of the PDF and posting the image instead, but the text on the image is blurry depending on the resolution that the viewer is seeing the image. Both were undesirable affects. I recommended that she upload the images and text separately to the site, but this would require rebuilding the spacing and alignment to mimic the original MS Word document (which can be difficult since some formatting in MS Word cannot be transferred over to HTML language very easily). Another option would be to install a plugin to WordPress to display PDFs on the page. Added this plugin, called TNG Embed Everything, to all epcamr.org sites.
- EPCAMR staff walked several miles of the Solomon Creek mainstem from the Millie Dam to the Pine Run Dam (just downstream of Pine Run Road off Rte 309 South). This section of stream seemed to be of fairly good water quality and macro invertebrate populations were present as well, despite its listing in the DEP's Non-Attaining Integrated List of Waters (formerly the 303(d) list). Trout were seen in several pools and runs in this section that ran mostly through state game lands and near the bed of the old Ashley Plane.
- Georeferenced maps from the 1975 Groundwater Resources of Lackawanna County, PA report by Jerrald R. Hollowell, U. S. Geological Survey, Water Resources Division (aka the Hollowell report). These maps not only showed water level contours from wells all over the county, but mine pool contours measured at boreholes and shafts in the Lackawanna Valley. Drew the pools from this map into the EPCAMR Geobasins shapefile and marked them as pools. Many of these pools already existed in the shapefile, but were drawn from Operation SCARLIFT maps that were of poor quality. Another Hollowell report and maps exist for the Wyoming Valley (and possible other areas in PA), but will have to be researched further at libraries since they are not available online.
- Researched available cross sections from OSM Folios in the Northern Coal Fields in preparation for building a 3D model of the mines in this field. Concentrating first in the ones from the Scranton Metro Mine Pool, I pulled cross sections from the folios for EPCAMR intern to digitize. Updated "Skips Scripts" instructions on how to process the cross sections with lessons learned from recent attempts to use original mine maps in the process. Plan to teach EPCAMR interns how to run the scripts and process them to catch us up and reduce the time it takes staff to build a model.