



Eastern PA Coalition for Abandoned Mine Reclamation

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January 2024 Progress Report

Highlights:

- EPCAMR staff scanned, georeferenced, mosaicked & digitized mine maps for the **DEP MSI** MMG program. Continue QA/QC of **HU's** Southern Anthracite Mosaic work.
- EPCAMR Management staff participated in weekly **PA AML Campaign** calls, attended **LRCA's** Shiver Fest, then meetings with **CCRA**, **Teichos**, and a **Luzerne CAP WIP** meeting.
- Prepared **TIC** tank and livestream to accept 257 rainbow trout eggs for future EE
- Sampled Askam AMD Treatment System, upstream & downstream on **Nanticoke Cr.** for **EC**; sampled 22 discharge and instream sites in **Shamokin Cr.** for **SCRA**.
- Updated www.TreatMineWater.com and www.EPCAMR.org; administered GobbaDaPile local domain, G Suite for Nonprofits, and social media sites.

Education, Outreach and Admin.:

- Incorporated feedback from Tom Clark and Aaron Ponzer into 2022-2023 Loyalsock Sampling Report. This required switching the water chemistry and flow charts from line to bar graphs. This was a good suggestion because it was monthly data that looked like continuous data. Now with Tetra Tech, both were involved with these treatment systems in their former jobs at Susquehanna River Basin Commission (SRBC) and PA DEP Moshannon District Mining Office (DMO) respectively. [LCWA]
- Transferred all notes from Evernote to Google Keep. These note apps help me stop at the end of each day and jot down notes of tasks that were completed to eventually turn into monthly reports. I can access the apps from my desktop or phone (especially helpful on field days). Evernote free accounts were recently limited to 50 notes in 1 notebook. I deleted several notes to get down to 45, but Evernote still wouldn't allow me to add another note. This app was getting increasingly harder to use the free version and was time to find another option. Researched and found Google Keep which seems similar so far and is part of our free Google Workplace for Nonprofits Suite.
- Prepped the Trout in the Classroom (TIC) tank for trout egg arrival next week. Washed then added egg baskets to the top, set the chiller to 52 degrees, and made copies of weekly monitoring sheets.
- Updated 13 plugins/themes through WordPress for our epcamr.org website.
- Updated ARIPPA AMD/AML Award page on our website to show 2024 information and application deadline. Sent a MailChimp campaign to notify groups in the region that the grant application was available. [FPW]
- Sent a July-September 2023 Status Report to the 319 program. Even though we are not requesting reimbursement from the 319 grant at this time, we need to send quarterly status reports. Will send another one for October- December 2023 after the next scheduled board meeting in February.
- EPCAMR Management Staff participated in weekly AML Campaign call.

- Aided Earth Conservancy (EC) in the search for an electronic version of Dr. Klemow's 2002 report on the Nanticoke and Newport watersheds. Handed over my printed version for Karen to scan.
- Added trout eggs to the TIC tank. This time almost all the eggs survived for a total of 257 placed in the "redds" (baskets at the top of the tank). Set up the webcam to start live streaming their progress to [Dailymotion](#).
- Updated the Catawissa Creek page on [epcamr.org](#) to include the Qualified Hydrologic Unit Plan (QHUP) and some text about the current stream access project. The Catawissa Creek Restoration Association (CCRA) does not have a website currently so I try to keep this page updated for their use.
- Volunteered at Shiver Fest as requested by the Lackawanna River Conservation Association (LRCA) to help make sure kayakers make it safely down the Lackawanna River from the Parker Street landing to Sweeney's Beach on a very chilly January day.
- Edited my timesheet to make a template for other staff. Bobby mentioned that several staff had an issue with broken auto-calculators and needed a refresh. This allowed me to incorporate the percentage of time calculator which is a quick visual tool for staff to know how much time they have spent on their regular work vs. grants vs. non-billable hours. This should be helpful since all staff time is now paid for by more than one fund. Also made a suggestion to use the last board meeting's Awarded Jobs List for the abbreviations to help those who are preparing reimbursements. Made updates to the Travel, Request for Leave, Request for Training, and Miscellaneous Grant tabs then set up editable regions on each spreadsheet and locked the workbook to maintain the auto-calculators. Sent the template to staff and Tara Jones at LRCA as requested.
- Edited the TIC Camera live streaming link and a few other updates to the TIC page on [epcamr.org](#).
- EPCAMR Management Staff participated in PA AMR Conference call. Prior to the meeting I reviewed the conference surveys that Anne Daymut from WPCAMR created and pulled out some positive and mixed comments in a google document. Added speakers that had indifferent totals (in the 3's) for their presentations and pulled written comments. Pointed out on the call that we should take note of these presenters for future conferences. A few were sponsors that had basically given a commercial for their presentation. Encouraged making a few changes for the next conference to encourage more relevant topics and a process to review sponsor presentations before the conference. Created a Reviews page on the 2023 website and posted quotes to act as testimonials from attendees and sponsors but kept them anonymous. Installed the 2024 website on WPCAMR webhosting server. Added the dates and venue of the 2024 conference as a save-the-date post. Added an About page. Will add more when I get a chance. Waited to redirect [treatminewater.com](#) to the new subdomain until I have more.
- Press release from DEP showed the AML Bipartisan Infrastructure Law (BIL) 2023 Grant Round 2 awardees were finally announced, but our Hollywood Project still wasn't on it. We didn't get a denial letter. Asked project partners at Tetra Tech if they heard anything. It could be delayed because part of the grant was for reclamation of Tyler Banks which would be a traditional fee based AML grant. Another contingency is that the project is being considered for the Abandoned Mine Land Economic Revitalization (AMLER) program.
- To our surprise, Denise Hernandez resigned as EPCAMR Bookkeeper and Urban Outreach Specialist. Her reasons given were that she had worked part time for almost 10 years and she needed health care coverage (which is only given to full-time staff). Unfortunately, this was never communicated to management staff until it was written in this letter. While there was no indication that she wanted full-time, I was working her into the MSI program workflow so there was a path for this to happen. The resignation was effective immediately so there was no time to notify the personnel committee or give her a counteroffer. She started work at the Mohegan Sun Casino the next day.
- Evening meeting with CCRA, Columbia CCD and stakeholders to discuss progress in the stream access initiative. Five sites were mentioned for access agreements and development.
- Met with Teichos staff to talk about future community support they may need for their Audenreid AML to Solar Project as the design for the solar farm is almost complete.

- As promised in the CCRA meeting, I created some maps showing the 2 abandoned rail lines that run along Catawissa Creek to show the potential for rail trails and support the stream access initiative.
- Created a proposal and invoice to investigate surface water infiltration to the mine pool that feeds the Connell B and C Vein AMD Tunnels and sent to LCWA for their approval. Researched the area above the Connell and Northern Anthracite underground mine and calculated a rough estimate of 1.25 miles of mapped tributaries that will need to be investigated. There is a potential that area above the Bliss mine should be investigated as well as the mine pools look connected in a map from the Scarlift Report. There are roads on WALA property that lead in that direction but have yet to be explored by EPCAMR staff. This was a recommendation in the 2022-2023 Loyalsock AMD and Stream Assessment. [LCWA]
- Followed up on a request from the LRCA to find a photo they wanted to use for publicity. I couldn't find the particular picture and copied Bobby on the thread to see if he was the source. Updated the [Lackawanna River page](#) on our website with a photo gallery from Google Photos. Added a few more photos of other discharges in the watershed and a map showing the mine pools for the Jermyn and Gravity Slope discharges.
- Looked up a map on the Mine Map Atlas for the Pioneer Tunnel Mine Tour showing the 3rd Lift for the Bancroft Mine. Found it on a Bottom Split Mammoth map, only one other vein (Buck Mountain) exists on the Mine Map Atlas (MMA). Supplied this map to a director of the Pioneer Mine Tunnel board. Will need to check other federal (Mine Map Folios and NMMR) or private collections for more.
- Meeting with EC, Luzerne Conservation District (LCD), and Larson Design Group (LDG) staff to talk about the Luzerne County Action Plan (CAP) Watershed Implementation Plan (WIP). Three of their objectives deal with AMD/AML issues: Manure on Minelands, AMD as a nutrient Best Management Practice (BMP), and AML site holistic planning. Followed up on the subjects with Keith George from the LCD. Potential grant to research AMD treatment, especially ones that remove iron, and phosphate uptake/removal. Many research papers have been gathered to prove the concept. The goal in the project would be to convince the Chesapeake Bay Program to add it as a BMP in field doc or practice keeper to count at least 3 AMD sites in the county as phosphate removal BMPs.
- Signed up for the Chesapeake Bay Listening Session on the recommendation of Josh Glace at LDG. Prepared for the meeting by calculating nutrient (Nitrate and Phosphate) load reductions over the past year in 3 treatment systems (Askam, Connell C, and Lewis) which we sample monthly and report results. Compiled the calculations and summarized them into 3 statements to share at the Listening Session. Will also mention that we compiled 5 studies (3 published in scientific journals) that show phosphates are removed by AMD treatment systems. Some of the studies specify that wetland and aeration type systems to oxidize iron are the most effective at removing phosphate as well.

Technical Assistance:

- Researched creating bar charts in Excel. It's not as easy as one would expect. The bars were really skinny at first, but found out that I needed to switch the date display on the x-axis to text instead of numeric which was counterintuitive. This widened the bars and showed the monthly sampling data better. Created a template in Excel to apply the formatting to future monthly sampling data.
- Both Excel and Word started giving an error about macros on my computer other computers had different error messages, but none really said that our licenses had expired. This went on for a week until, by chance, I decided to look into our Microsoft accounts on the TechSoup cloud manager. Discovered that our Microsoft 365 Premium subscription was up. Surprisingly, TechSoup is now charging \$1 per license per month.
- Contacted TechSoup technical support to find out we had to pay the \$9 per month to access Microsoft Office 365. Talked this over with Bobby and we decided to pay the overdue monthly subscription of \$9 to get our Microsoft Office programs functioning properly again. This will now cost us \$9/month (about \$100 a year) for the computer software which was an unexpected cost, but seems fair considering that a for-profit business pays \$22 per Microsoft 365 Premium

Business license per month for the same software. Fortunately, adding our card to the TechSoup Cloud Management portal made billing an automatic process. This did not fix the macros error on my computer. So I decided to refresh my Office 365 installation. This seemed to do the trick, but an account notice later showed up in Word and Excel stating there's a problem with our Microsoft 365 subscription. Eventually the message went away on it's own.

- Updated and printed bottle labels and sampling sheets for Shamokin Sampling next week. Steve to come in tomorrow to prep the bottles.
- Continued to fix mosaic dataset paths and download maps for the Lykens Valley (LV) veins in the Southern Anthracite Mosaics produced by Harrisburg University (HU). Removed LV5 overlap mosaic since it contained one map which was actually the LV6 vein and not an overlap. Added re-georeferenced maps IUPASG_04221 and BMSA_4482-001 (called the Red Ash Spoon vein locally) to LV5 mosaic. The edits weren't showing up at first, but I remembered I had to remove the mosaic, replace the aux.xml file in the folder, and add the mosaic back to ArcGIS. Ended up having to export the footprints, remove the maps from the mosaic, add the maps back to the mosaic, and import the footprints for the edits to show up. There is a definite process that needs to be followed. Edited footprints to fit the maps that were added. Transferred recently georeferenced SIDs, updated Southern Anthracite geodatabase, and corresponding SID files to Steve's hard drive to get him up to speed. [MSI]
- Gathered mosaics and digitizing data work from Frank Sindaco to hand over to Denise Hernandez as we were working her into the Mine Mapping Grant (MMG) to allow her more time. Denise had already been through the in-house digitizing training and this was the next step. Added files to her computer to get her started on the Stanton Vein in the Wilkes-Barre West Quad. [MSI]
- Added re-georeferenced maps IUPASG_01196 (titled LV6, but there are multiple colors on the map including orange which is the LV5) and 01958 for LV5 mosaic. Unfortunately these maps don't have a legend, but I jotted down which color stands for what vein from other maps keeping in mind there is some local variation. [MSI]
- Bobby and Steve completed Day 1 of Shamokin Sampling. [SCRA]
- Re-georeferenced and added IUPASG_01948 and MSHA_0151-001 to LV6 mosaic. These were georeferenced using Surface map IUPASG_01022. Edited footprints to fit the maps that were added. Asked Patrick Jaquay if HU produced a surface mosaic that was not on the MMG SharePoint drive. He confirmed that they didn't. This would definitely account for the incorrect georeferencing of underground mine maps (UMMs) as there are very few surface features on UMMs in vast portions of the Southern Anthracite Field. EPCAMR's georeferencing process involves georeferencing surface maps to aerial photography and then georeferencing UMMs to surface maps. EPCAMR will need to create a surface mosaic for the southern anthracite coal field. [MSI]
- Completed Day 2 of Shamokin Sampling with Frank. Downloaded December lab samples for Shamokin from Bobby's emails to add to the EPCAMR SharePoint drive. [SCRA]
- Added November and December Shamokin sampling lab results and January field results to a spreadsheet on EPCAMR SharePoint. Uploaded PDFs of lab results and sampling sheets as well. Contacted Matt Caccese about missing lab results and he followed up with Jessica from the DEP lab. Katie from Tetra Tech requested the data as she is preparing a mid-term report for the grant.
- Assisted Bobby with some calculations needed for our auditor regarding our 990s. Sent out a reminder to staff to get MMG work and timesheets to me for the 4th Quarter of 2023 so I can submit a reimbursement. [MSI]
- Re-georeferenced and added MSHA_0832-001 to LV6 mosaic. Was signed out of ArcGIS Pro strangely. Looked at the ESRI license website because Denise said she was getting messages a few days before that her account was going to be deactivated. Notified Bobby and paid our \$700 ArcGIS license fees. I got no emails or calls about it. The quote was only put in the payment portal a few days ago.
- Aided Denise with Digitizing the Top Stanton vein in the Wilkes-Barre West (WBW) Quadrangle. Converted National Mine Map Repository (NMMR) maps EPCAMR_008284-01 to 06 (Lynken Eleven Foot) and EPCAMR_008290-01 to 04 (Lynken Susq. Colly. Inside Dev. All Veins) from

TIFF to JPG. Georeferenced the maps to see where they fit. They should help determine veins in the Lykens Colliery. If we actually need them for mosaics, I will have to send the TIFF images to Patrick Jaquay to convert to SID format and then we will have to re-georeference them. [MSI]

- After comparing maps, elevations, and I-series cross-sections, I discovered that the Lykens Colliery Eleven Foot vein was actually the Primrose vein. This area was difficult to discern because of slip faults which forced veins up or down in vertical elevation on opposite sides of the fault line. Then there was another map in the NMMR series for the Lykens Colliery called the "R" vein. HU placed BMSA_4467-002 (a copy of the map in the state collection) in the Primrose Overlap and Orchard vein mosaic, but after comparing cross sections and elevations it was actually the Orchard Vein. Removed the map from the Primrose Overlap mosaic. Re-georeferenced MSHA_1095-001 for LV5 mosaic. Exported the footprints from LV5 to a shapefile, removed the mosaic from ArcGIS Pro, removed the map from the mosaic, added the map back to the mosaic, imported the footprints, and added the mosaic back to ArcGIS Pro to see that the map was in the right orientation. Began editing the footprint around the map. It is quite a long process to add a re-georeferenced map back to a mosaic, but if not done this way the mosaic will never record the new aux.xml file which contains the control points for the georeferenced map. [MSI]
- Adjusted coal elevation points (CEP) on IUPASG_01958 and CEP & underground mine areas (UMA) on MSHA_1095-001 for LV5 mosaic for Bear Creek Project since we aren't to digitize the southern field for the MSI program. They want HU to fix their digitizing mistakes. This creates a good division line for our MSI MMG and Bear Creek Mine Pool Mapping work as the original intent was to digitize already mosaicked mine maps. [BEAR]
- Researched XLStat plugin for Excel to possibly run Log-linear Poisson Regression model equations on the Nanticoke Flow Data. I tested the plugin on Nanticoke Headwaters transducer and measured flow data. It seems to fix the "below zero" issue, but highly exaggerates the high flows. The trial of XLStat lasts until February 2nd, beyond that it will revert to the free version. I am hoping the free version still has these statistical calculators. [EC]
- Adjusted CEP & UMA on IUPASG_04221 for Bear Creek Project. Several elevations were not marked negative by HU, most elevations on this map should be negative. Preparing this data to mashup with cross-section elevations from earth Vision (EV). [BEAR]
- Setup computer to digitize cross sections (XS) in the Williamstown and Lykens Collieries. Found files for EV 4DVX processing files again so I was able to pick up where I left off. Creating the 4DVX file in EV is akin to hanging the XS image on a virtual clothesline in the 3D environment. Discovered I need to process XS 1-11 and 16-44 from the NMMR to supplement elevations from UMM mosaic mine maps. Had trouble converting XS 1 to 4DVX. The image would always show white, which means the dimensions are beyond the graphics processor (assumed to be at 100 million pixels). Tried to clip the image height, but this did not fix the problem. Clipped the image width to half and it showed up. This fix created a problem, however, because the length of the line of section (LOS) will have to be adjusted in ArcGIS and re-imported into EV as a traverse "clothesline" file. [BEAR]
- Clipped the XS 1 image to 9,000 north on the local grid on the map (about where the creek crosses). Adjusted the LOS on ArcGIS Pro. Exported traverse file. Ran evtravandimg24dvx macro to make the 4DVX file and pulled it into EV 3D viewer. The cross section showed on the traverse curtain. Digitized the elevations of the gangway in LV5 vein on the cross section. Exported the digitized elevations to a shapefile and opened in ArcGIS Pro. The elevations matched with elevations digitized on the mine maps. Did the same for XS 4.5 but had to adjust the LOS several times and follow all the steps to convert from EV to ArcGIS and vice versa to get the elevation data to line up between the two sources. [BEAR]
- Handed over digitizing data and mosaics for Wilkes-Barre East and West quadrangles to Shawnese (since Denise left abruptly). Caught up with Patrick to verify that we are working on Southern Field Mosaic QA/QC until June 30th. [MSI]
- Processed 4 scenes from NMMR maps for Williamstown Colliery XS 10. This involves adjusting the brightness/sharpness then straightening the scenes in Irfan View, and photoshopping the scenes into one panorama. Next step to run 4DVX program. If the image shows up white, use

Irfan View to reduce the DPI as low as 150 (medium resolution but still readable for this process) and or clip down the image then re-run the 4DVX program until the image shows up on the traverse curtain. [BEAR]

- Adjusted LOS for XS 10 several times to get the elevation data to line up between the two sources. Processed 3 scenes from NMMR maps for Williamstown Colliery XS 12. It showed up without adjustment after the 4DVX program was run. Next step is to begin digitizing and make sure the LOS is lined up properly and finish digitizing LV5 on XS 10. [BEAR]
- Sampled Askam Boreholes, Treatment System, upstream and downstream on Nanticoke Creek, and 2 flow sites. Wrote results to Google Spreadsheet and notified EC. Added some notes to make them aware of the high flows and evidence of sediment loss from the ponds. Also, debris was clogging the oxidizer. They have to shut off the oxidizers when flows are high and they have to be cleaned periodically. Transferred cross section and flow data from the Swoffer flow meter to the intern computer as I was searching for a flow that wasn't recorded last month. Contacted John Clune at USGS to ask about how USGS relates measured flows to transducer data. The Jeddo Tunnel hydrograph on the NWIS seems to have a non-linear y-axis. He will connect me with the "stream gaugers" at USGS and suggested we fill out a CSAW grant to allow them to work with us. [EC]
- Began recording Shamokin Lab data from January to our EPCAMR SharePoint spreadsheet. [SCRA]

[] - Denotes funding source where applicable.