Eastern PA Coalition for Abandoned Mine Reclamation

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Highlights:

- EPCAMR staff scanned, georeferenced, mosaicked & digitized mine maps for the **PA DEP** MSI MMG program. QA/QC checked work. DL southern field mosaics & NNMR for **Bear Cr.** Proj.
- EPCAMR staff participated in a weekly **PA AML Campaign** call, a call with **Aquarius**, an **EPA EJ** call with **FPW**, a **PA DOA** Secretary call with **FPW**, and submitted 2 grants to **FPW** for **CCRA** and **ARIPPA**.
- Sampled AMD Treatment System on **Nanticoke Cr.** for **EC** & Updated **RAMLIS** to version 22.
- Updated www.treatminewater.com and www.epcamr.org; administered G Suite for Nonprofits and social media sites; maintained GobbaDaPile in-house domain server

Education, Outreach and Admin.:

- Reviewed a US Geological Survey (USGS) report from Charles Cravotta in 2008 titled "Dissolved metals and associated constituents in abandoned coal-mine discharges, Pennsylvania, USA. Part 1". Specifically analyzed Table 2 for Phosphorous (P) and Mercury (Hg) concentrations. The data is from 1999 in the Anthracite Region and 2003 in the Bituminous Region. Concluded that Phosphorous is found in coal. There's 1.4x as much P in Bituminous vs Anthracite coal, but P is more likely to be found in AMD sludge than coal. P is a little more likely to be in shale than AMD sludge. The SPAtially Referenced Regression on Watershed (SPARROW) model in the Chesapeake Bay County Action Plan (CAP) Toolkit seemed to point toward a geologic layer that is leaching Phosphorous. My educated guess using these scientific reports is that it is leaching from the shale or carbonate rocks above or below the coal. Regarding Mercury the levels were all <0.2 ug/L and considered undetectable. In comparison to Charles Wood's "Water Quality of large discharges from the mines in the Anthracite Region of Eastern Pennsylvania" report by USGS in 1996, Hg levels ranged from 7 to <0.2 ug/L from 1975-1990. This shows that Hg in AMD has decreased over time like all the other metals. The Charles Cravotta in 2008 report mentioned above shows there is 2x more Mercury in Bituminous Coal than Anthracite Coal and it does not exist in the Ochre (sludge, sediment). It is liquid at room temperature until -40 F when it solidifies or 675 F it becomes gas (why it's found in acid rain). Bottom line regarding the 2020 Draft Integrated Waters Report, Unless DEP can produce Mercury results sampled directly from AMD discharges vs in-stream samples, I don't agree that the Mercury in the fish tissue samples are from AMD. The data does not support it.
- Submitted a $15K Letter of Intent (LOI) to the Foundation for Pennsylvania Watersheds (FPW) for Catawissa Creek Stream Fishing and Boating Access for the Catawissa Creek Restoration Association (CCRA).

- EPCAMR Management staff participated in the weekly PA AML Campaign Call to keep up to date with the Infrastructure Investment and Jobs Act (IIJA) aka Bipartisan Infrastructure Law (BIL) funding and “AMD fix” conversations.
- Started FPW grant application for CCRA Streamside Access Grant with the help of Ed Wytovich who also provided a letter of support for CCRA stream access project.
- Created statistics on 2022 "mining impaired streams minus Mercury" to EPCAMR Executive Director and Branden Diehl from FPW. Will submit this information to DEP BWQ along with the comments on their 2022 Integrated Waters List report.
- Reviewed Joe Pizarchik’s AMD Fix document in preparation for a meeting with Pennsylvania Department of Agriculture Secretary Redding.
- EPCAMR management staff participated in a call about ARIPPA Award application with ARIPPA and WPCAMR regarding some changes in the application process.
- Submitted a convening grant to FPW for ARIPPA Award. Looked up population statistics from EPCAMR counties in 2020, our 16-county region now has 1.7 million people. Updated other background details on the organization including current projects and achievements and applied to FPW grant applications. Will need to update EPCAMR website project history and awards pages.
- EPCAMR management staff participated in an Aquarius call to sort out time series data with the data input team.
- Worked on the ARIPPA Award Application with Anne Daymut at WPCAMR.
- EPCAMR management staff participated in a call with Environmental Protection Agency (EPA) Environmental Justice (EJ) Office staffer Matt Lee and FPW.
- Synced EPCAMR Board List and MailChimp from incoming membership applications. Sullivan Conservation District (SCD) was automatically blocking emails, so sent a message to the main email listed on their website to help resolve the block.
- Released trout fry into the TIC tank.
- Updated wording on the 2022.treatminewater.com website based on PA AMR Conference Committee comments.
- Finished and submitted the Catawissa Creek Streamside access grant to FPW.
- Participated in a call with PA DOA Secretary Russ Redding and FPW regarding Solar on AML and other potential AML projects related to the agricultural industry (manure and minelands). Learned of Legacy Sediments that were being dredged from behind dams on streams in Southeastern and South-Central PA which could be used in AML reclamation. Followed up with studies and projects that were done in the area.
- EPCAMR management staff participated in an AMR Conference call to sort out details with registration.
- In office to print Friends of the Nescopeck (FON) sampling results poster and restart the Trout Cam which keeps going down. Discovered that the computer was having an issue downloading Windows Updates and that could be causing the computer to shut down unexpectedly.
- Opened AMR Conference Registration by updating the registration page and several posts on treatminewater.com as well as the items in the EPCAMR Online Store.
- Got a call from a resident in Jenkins Township wondering if a pipe in her back yard could be cut down and a concrete patio placed on top. This individual called years ago and at the time we recommended not to touch it as it looked like a borehole at the time. Did a RAMLIS investigation to get the mine inspectors report and found that the neighborhood is subsidence prone and the Checker vein is close to the surface but not specifically under her house. The pipe was likely used in a flushing project to stabilize the surface.

- Called Scott Bollinger of the Fish and Boat Commission to talk about fishing access agreements along the Catawissa Creek. He explained how it was done in Erie and was interested in a tour/meeting to talk about an agreement between EPCAMR and PA Fish and Boat Commission to do something similar.
- Processed the first few AMR Conference Registrations.
- Worked with Cliff Denholm at Stream Restoration Inc and Kelly Williams at Clearfield County Conservation District to test Datashed.org Admin settings. [DSHD4]

Technical Assistance:

- Sampled Askam Boreholes, Treatment System, upstream and downstream on Nanticoke Creek, 2 flow sites and one possible discharge near the Luzerne County Community College (LCCC) lower parking lot in the Nanticoke Creek Watershed for February. Recorded data into sampling spreadsheet and delivered to Earth Conservancy [EC].
- Downloaded Rausch Creek Lands (RCL) maps from server for the Bear Creek Mine Pool Project. The digitized mine map mosics from Harrisburg University for the Mine Mapping Grant were less than desirable, these RCL maps will be used to fill in gaps. [BEAR]
- Worked on the Trout Cam Computer to get it up and running again. Recorded some video of the swim up fry eating.
- Sent Cooper and Lo Hillman Vein Mosaics to Frank for digitizing. Completed 4 Training Requirements (2 hours) for Mine Mapping Grant. [MSI]
- Took care of some odds and ends at the office since TIC Cam was down again and I had to go in to restart it. Took recycling to GFL. Updated ArcGIS Pro. Back to the office to restart the TIC cam and called the internet company to find out the livestream was maxing out our upload speed. Downgraded the live stream to medium quality and started to monitor the situation.
- Started reviewing National Mine Map Repository (NMMR) Maps in Williamstown Colliery for Bear Creek Project. These maps will be used to fill in gaps. [BEAR]
- Georeferenced NMMR 00907902 (topo map scale with LOS), 00900901, and 00900902 (Short Mountain Outcrops and LOS at 1:800 scale) for Bear Creek Mine Pool Project. I will need to create traverse curtains and digitize in Earth Vision to fill in gaps in the coal elevation points digitized by HU. The mosaicked UMMs only showed elevations along the main gangways. Checking the traced mined out area against the map in the mosaic. For example, LV5 map in the Big Lick/Williamstown colliery showed mines that were not digitized. They are color coded, but legend is not available. Found that IUPASG_01958 was in the mosaic, but PHUMMIS is still down so I can't download it. [BEAR]
- Discovered a legend in a related map to decode the multicolored veins and realized updates need to be made to HU digitizing. Contacted Patrick Jaquay at the PA DEP California District Mining Office (DMO) for the MSI MMG program who said to go ahead and make the changes, but do not submit them till the next grant when we will be able to apply to QA/QC other grantees work. Georeferenced and digitized LOS for cross-sections in Short Mountain Colliery. Will digitize cross-sections to supplement coal elevation point data for Bear Creek Mine Pool Mapping Project. [BEAR]
- Sorted out ArcGIS Online (AGOL) Community Data account with Frank. He was running out of storage credits.
- Adjusted lines of section for cross sections 90-43 Short Mountain and Williamstown Collieries. Refresher on formatting cross sections for 3D digitizing in EV. Processed XS 74 and deciding which other ones need to be photo-merged. [BEAR]

- Finished adjusting cross sections 42-1 Short Mountain and Williamstown Collieries. Converted cross-sections to 3D curtains (4dvx) files in EarthVision. Initially had some issues with a "new" perl script from 2018, pulled one from 2015 that was in a Mocanaqua Mine Pool folder and it worked. Reduced one photomerged image to 200 DPI as it was not showing at the 300 DPI resolution. [BEAR]
- Order came in from the EPCMR Online store for a RAMLIS CD. Worked on update for RAMLIS version 22 but ran into an issue with my CD writer. Purchased a new CD/DVD writer from Best Buy.
- Created a GIS layer by exporting Passive Treatment System projects from the Datashed.org website. Fixed location of 10 projects and submitted to Cliff Denholm at SRI. Finished RAMLIS update with ArcGIS Pro and started creating versions for ArcGIS Desktop 10x. [DSHD4]
- Flipped XS 74 and 85.5. Added XS 90 to 82 to the Bear Creek Model in EarthVision. [BEAR]

[ ] - Denotes funding source where applicable.