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Richard Mitchell, US EPA  
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Rupert Rossetti, Octoraro Watershed Association  
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Brian Smith, Maryland DNR  
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Chris Victoria, Anne Arundel DPW  
Alice Volpitta, Blue Water Baltimore  
Michael Williams, Univ. of MD College Park

## MINUTES

### MARYLAND WATER MONITORING COUNCIL BOARD MEETING

FEBRUARY 14, 2023 – *HYBRID*

#### In Attendance

*In person:* Matt Stover, Katherine Hanna, Nancy Roth, Najma Khokhar, and Anne Hairston-Strang (guest speaker). *Virtually:* Byron Madigan, Barbara Johnson (alternate for Alice Volpitta), Michael Williams, Lindsay DeMarzo, Chris Victoria, Ken Staver, Jason Dubow, Andy Becker, Brian Smith, John Denniston, Mat Pajeroski, and Matt Harper

Matt S(tober) [Chair] called the meeting to order at 10:04 AM. Matt S welcomed Rupert Rosetti to The Board. Matt S announced the beginning of a new year for the Board. He noted the great success of our first in-person conference in a while. He encouraged the group to build the council into what it was before, developing workshops, and other activities. He reviewed the meeting agenda.

#### The Minutes (10:04 AM)

Katherine (Hanna) [Executive Secretary]: she said there was only one technical correction to the minutes. No further comments and the minutes were approved.

#### Nominating Committee (10:06 AM)

Matt: Ken M(ack) has agreed to become the Nomination Chair for this year. He asked the members of this committee to help Ken M in this transition. He asked Ken M to outline plans for this year.

Ken M: Everybody should get an email in the next couple of days to approve the continuing board members: Ken Staver, Byron Madigan, Michael Williams, and Chris Victoria. If any of the four are no longer interested, let him know. We need to elect one new member. Michael (Williams) and Chris (Victoria) asked for which category, and Ken M responded "At large." Matt S said that Tom Guay with the Severn River Commission was interested. Matt S reminded the board that the At-large position can be filled by a person from any related background. Matt S bolstered Ken M's request for suggestions.

Matt S related that we have board position with set designated roles. We try to fill each position with a person of appropriate background. Look over the bylaws for this.

#### Committee Chairs Meeting (10:11 AM)

Matt S: Committee Chairs and Co-chairs should have gotten an email from me to schedule a Committee Chair meeting. We would like to begin discussion of planning workshops, seminars, and other such projects. Committees would work on these projects to reinvigorate the Council. We not only exist to share knowledge and expertise, but also to facilitate coordination and collaboration. In an early March meeting, we are seeking each committee to come up with one modest project it can implement this year.

Chris: In the last Stream Restoration Committee meeting, Chris suggested an eDNA workshop. It could be a fruitful collaboration between the Stream Restoration and Monitoring Committees. eDNA is proposed as a primary tool to evaluate stream restorations. It is a tool that is becoming of interest to local regulators.

Matt S: thought it was a good idea and volunteered to help with the workshop.

Ken M: Bob Hildebrand might be interested in helping and can volunteer himself.

Matt S: volunteered Richard Mitchell as possible candidate for the workshop to provide federal contacts, who Chris said he had discussions with already. Matt asked the remaining committee heads to keep in touch.

### Committee Reports (10:20AM)

Monitoring and Assessment (Andy Becker): In 2022 we organized the Streams Roundtable and are repeating this for mid-March. Working with Clark (Howells) to get MWMC to work with the Water Utilities group. Not much has happened yet. Looking to pass leadership for this committee to someone else.

Matt mentioned Clark's interest in collaboration between MWMC and public water utilities. There is interest from the utilities in using monitoring data. Data collected from reservoirs could be used for purposes other than drinking water. That lends opportunities for data sharing.

Groundwater (Jason Dubow): Reached out to Andrew Staley at MGS, who will participate in the committee, along with John Anthony from Water Supply at MDE. We will have our first meeting in March. Will consider saltwater intrusion and other topics.

Citizen Science and Community Stewardship (Jeff Regan): Katherine confirmed Jeff was not in attendance.

Information Management Committee (Najma Khokhar): We had 3 meetings last year focused on data quality and considered it the most important part of data management; plus considerations about QA/QC. Considering having one or two workshops on how different organizations achieve QA/QC.

Matt brought up his team's QA/QC concerns. Najma suggested we bring up a QA/QC discussion at the Streams Organization meeting. Matt described standardizations within MDE's AWQMs database. It's also used to meet EPA's requirements to provide for the Water Quality Exchange (WQX). The data is tax funded and belongs to the general public. He asked what systems others use for their data.

Brian: at DNR, Tidewater Ecosystem Assessment, all our ambient water monitoring data is housed on a server (Eyes on the Bay) that can be accessed through our website. Data is either funded by NGOs or the EPA and submitted through the CBP database. We have standard QA/QC procedures for each program with QAPPs updated every year from each project. Data is submitted to the EPA.

Najma asked if the QA/QC was internal to the database. Brian explained, for example, a macro for outliers is present for the continuous monitoring database. He explained their use of post-calibration to identify probe failures. Data is censored but kept in the database.

Barbara: manages the Baltimore Harbor Keeper water quality program. Their ambient water quality modeling is designed after DNR. They have an in-house database and submit data to the Baltimore Water Watch after QA/QC.

Brian: we also use the sequel server for our Eyes on the Bay data.

Chris suggested a workshop. Najma agreed and would like to see standardized protocols across the discipline.

Matt brought up the subject of the ease of collecting vast amounts of continuous data through data loggers and how to best store this data. Data management programs were not developed to handle continuous data. Water quality criteria were developed for discrete data. How well do they apply to continuous monitoring?

Ken M: most of our data is stored in a relational database, all paper data is double entered, and errors are flagged. Continuous logger and contractor data is flagged in the database, retained but never reported. We collect all kinds of data, so the QC process is slightly different for each data type. The sequel server is our main housing. We can modify it as we like, even if it is archaic.

Brian explained the discrete data, from monitoring crews, is stored in the CIMS database. Sonde data is submitted to the Bay Program; unknown what they do with it. All the data can be accessed through us.

Rupert: handling the large Octoraro Watershed dataset. Have formatted data to qualify for Chesapeake Monitoring Cooperative. Also aligning data storage with Lancaster and Chester Counties, PA. Working with Tyler Shank at SRBC, deploying sonde units. I can provide a bridge to work in PA.

Ken S: with the proliferation of amateur data collection and auto-collection tech, one must consider if the data is worth storing. What is the quality of the actual measurement? The first step to be considered. Data of low quality and not consistently measured does not pick up measurable improvements, etc.

Barbara: agreed, stating there was a fine line for communicating data protocols. Are SOPs being filed properly for regulatory purposes? She suggested a workshop on the topic.

Brian agreed with Ken's points. He recalled efforts to standardize citizen science data through the Bay Program, which Matt identified as the Chesapeake Data Explorer. At MDE we don't disqualify data from any group until we evaluate it. Some NGOs meet standards, even at higher resolutions, while others do not. He asked Ken S how in academics you store and QA/QC data.

Ken S: Most data generation is sponsor driven. There are requirements, but no standardization across the university. That may happen, but data is evaluated by publishers. Academics are reluctant to give up data, as they are competing for publications. He agreed with Matt's last point.

Nancy: as a consultant, we are asked to look at all types of datasets. Quality varies, and we have developed protocols/tools; choice of which depends on the sponsor. She will talk to her data manager, who might have ideas for a workshop [turning to Najma]. She brought up the rigorous MBSS data protocols.

Najma emphasized the use of proper coding, and asked how carefully people are following other SOPs?

Matt stated that if you do not follow your QAPP, they do not really work.

Student [Lindsay DeMarzo]: Katherine said Lindsay would arrive late and shared the report she provided. No update because the committee was unable to meet. They intend to meet in March and asked others to join or offer suggestions. She thought of a student registry with a listserv. Given the requirements for updates, this may not be practical.

Nancy suggested that the students change, but the faculty do not, so faculty should be kept in the loop. Katherine suggested there are organizations that work with students, such as the Howard County Conservancy.

Matt reminded the committee that MWMC does post position openings on its website. If your organization is looking to hire, keep that in mind.

Matt thanked people for participating and helping with the conference. He got a lot of feedback from people appreciative that the conference was again in person.

Annual Conference Planning (Katherine): Katherine went through a spreadsheet showing the finances of the conference. There is a net balance of > +\$28K. A significant boost was not covering the cost of virtual presentation. There was a lot of interest, and we could not accommodate everyone. Maybe next year the attendance cap should be a little higher. The net is about \$10K more than last year. She suggested we could use this net to fund workshops or other activities. A glitch in our online store registered more people than our attendance cap. Fortunately, the number of people checking in did not exceed our cap. A couple of people were refunded, but these funds were not included in the budget. A third of our registrants applied during the early bird period. There was one sponsor, 10 vendors with displays, and five tables with displays from other organizations.

There was only one Weber nominee this year. Katherine made a request that people seek nominations for this category. There were no Above and Beyond nominees, and made the same request.

Matt reflected that the current balance not only gave us enough money to upfront pay for the conference, but also pay for workshops and other possible events. He asked if we paid half deposit for the Conference Center. Katherine said that this year we do not do that, rather the full amount after the conference.

Nancy stated how many positive comments she got about it not being so crowded. Matt agreed, bringing up the fact that we did not have to have a staggered lunch.

Ken S asked if there was a sense of how many people were turned away. Katherine estimated about 40, beyond those registered. Andy noted that many county employees were unable to get approval within the registration window. Matt agreed that attendance was probably lower due to the short registration timeline.

Mike asked if the number of people flying in was ever significant, since COVID has still curtailed travel. Katherine thought that the number of people flying in was always few.

Matt suggested we raise the cap to 400 for next year. Katherine noted that over 350, we would have to split lunches and satellite rooms for the morning plenary. She expected we would have to this coming year. Pre-COVID we were at 650. Matt also commented that the forecast for snow may have kept people away.

Katherine stated that we had good formal feedback and ran down the demographics of attendance and remarks. The plenary was rated excellent to good. The most popular sessions were Salt, Vernal Pools, TMDLs, Contributed Talks, and Forestry & Ag (all other rooms for that concurrent session rated just below). Both poster sessions and the post conference social were rated well. The general rating of the conference was about the same as in 2019. Katherine ran through theme and session topics for next year suggested by attendees. She went through a list of suggested speakers.

Katherine started the discussion of the date for this year's conference as December 7. The board then discussed possible earlier dates.

Matt called for a break and to reconvene at noon to hear the guest speaker. [11:43AM]

#### Guest Speaker (12:02 PM)

Anne Hairston-Strang: **Current and Future Forests in MD**

Anne presented and answered questions.

#### News Roundtable (1:14 PM)

Andy: we are gearing up to collect spring biological data. We are working with our MS4 permit partners and submitting to MDE under new requirements, under our new Phase 1 permits. We are working with Charles County and Matt's team to delist those county streams. We are conducting data mining in Frederick and Howard counties to identify any potential streams for delisting.

Barbara: we are gearing up for our tidal monitoring in a month and half. We are starting our capital campaign for a new boat. If anyone has any leads on funds please contact Alice. We are starting to schedule our grant deliverables: outfall screening blitzes, community bug hunts, and citizen science stream monitoring. We hope to find funding to continue the latter this summer. We plan to do mapping of our Baltimore Water Watch projects (tree planting and stream restorations), to correlate these with water quality data.

Brian: we also are ramping up our shallow water monitoring activities in the next month and half. We will be deploying another 10 continuous monitors. We will be conducting data flow cruises in Tangier Sound, which will be the last of our three-year habitat assessment. The CBP has funded us to conduct three-year segment-by-segment monitoring of the Maryland portion of the Chesapeake Bay. As of this year we will have completed a full study around whole the Bay. There is discussion as to what the (DNR) Shallow Monitoring Program will look like after this year.

Byron: we got our new MS4 permit on December 29. Under these new guidelines, we have established a new longterm monitoring location for BMP effectiveness. We are two weeks away from MBSS monitoring and are establishing new sampling locations.

Chris: like everyone else, we are gearing up for field sampling of our long-term targeting stations. Andy, KCI, and Coastal Resources will begin year-one of our four-year countywide sampling.

John: we have a potential cooperative with MDOT. We were approached by GreenVest to work on the Smith Cove Environmental Justice Project; a site on the Middle Branch of the Patapsco River near the casino in the Inner Harbor. The project will include extended detention shoreline stabilization, invasive species removal, tree planting, as well as other social and economical benefits. We qualify for Phase 1 pollutant reduction of N, P, and TSS.; 200 impervious acres treated under water quality permits. We are not quite sure how this will proceed with the administration change and under the Acting Secretary.

Brian commented that IMET funded deployment of continuous monitoring in a Middle Branch marina to track the changes of that project he was describing.

Ken M: Montgomery County's field season begins soon and ends in late December. Working through Phase 1 (planning locations) of a comprehensive flood management study. Working diligently for requirements of the new MS4 permit. We will be issuing our large monitoring contracts to consulting firms.

Ken S: mostly been involved in stream monitoring. So far it has been a warm dry winter. Stream levels are all running below longterm means (water tables are low).

Lindsay: we kicked off a salt watch campaign this year, awarding prizes. We have an online salt pledge for people to sign. We have been working with our highway department, getting people to come up with new ideas. We have been updating our climate action plan, which recently has received a lot of interest. My aspect of the plan is nature-based climate solutions and proper placement of solar.

Mat: StreamStats is an app that takes into consideration all flow for the area and basin characteristics. It allows users to calculate stream flow at ungagged locations. We are implementing it in Washington DC with the Department of Energy and the Environment. They are using it in conjunction with other efforts to control combined sewer flows. A couple of years to completion. Also, we have been attempting to detect the genera of harmful algal blooms using hyperspectral imaging. We are using satellite imagery and comparing it to a library to identify species associated with HABs. We have had pilot success with this in Upper Klamath Lake and are looking for pilot locations the Bay Area. Another hot topic is microplastics, where we are examining them in the sediment of the Anacostia River. Regarding a legacy concern, we are analyzing the impact of wastewater treatment on PCB levels. He shared social media links for USGS in group chat.

Matt H: Likewise, Montgomery Parks is getting ready for the spring field season. We are finalizing projects under our Phase 2 MS4 permit. We are trying to figure out future requirements that MDE may give us. We are budgeting for priority projects for retrofitting and environmental restoration.

Michael: Our watershed restoration group is concentrating on the Choptank watershed. We are funding a circuit rider to work with Envision the Choptank to implement BMPs. We are moving in the direction of environmental justice, where we can meet the Bay TMDL goals and simultaneously help underserved communities. We started a project this summer in Jonestown, a small historically Black community, where we are implementing BMPs to abate basement flooding. We are planning to work with the City of Cambridge, another underserved community. We are planning on doing some monitoring of agricultural areas in the Tuckahoe Creek basin.

Rupert: We monitor a non-tidal watershed for nitrates, as we have for the last 20 years. Recently we have been involved in Lancaster County rapid delisting of watershed segments. That requires monitoring in 10 to 20 parcel subwatersheds, which is something that the Chesapeake Conservancy pioneered in the center of PA. As most people know, Lancaster County has the highest concern regarding the TMDL. We are learning habitat assessment protocols from the PA-DEP, and IBIs in the spring. Since I spend most of my time in PA, this committee is a way for me to get more involved in the Maryland portion of the watershed. Also, StreamStats is very valuable to me, but would like to understand it better, particularly modeling choices. Mat said he would bring this up with the StreamStats team, and would recommend providing more guidance for choosing models.

Ken M added that Montgomery County recently received an application for a new kind of solar panel. He shared a link in the chat box. He recited specs for the solar panels. The company that presented them to us is interested in installing "backyard solar farms." Ken is concerned about the water quality implications.

Najma: She had nothing specific to mention other than her committee is working on improving water quality data.

Nancy: we are working with the CBP on a microplastics monitoring framework. Mike Murphy has generated some data from his work on the Anacostia. We are interested in looking at both tidal and non-tidal waters and building on that. She directed this

interest towards Mat. Also, working on a protocol to supplement the benthic indicator, as well as physical indicators; to develop one grand hydrologic indicator. She again brought up the National Water Quality Monitoring Conference in Virginia Beach in April. Matt also put in a plug for the conference.

Matt S: there has been a push to improve our business practices regarding data quality and data management. We are in the middle of preparing our assessment report - the 303(d) list. We are pulling together data and assessing it for the Integrated Report. We are also reviewing several countys' MS4 monitoring plans. Completing the triennial review of water quality standards, which we will submit to the EPA soon. Under the implementation of antidegradation policies, particularly as it relates to Tier II waters, we are currently looking at possible improvements over the next year or two. We also continue to work with UMCES on the Tier II review for the proposed high speed maglev train, specifically the social and economic justification. They recently submitted for water quality certification of the line.

Katherine: MBSS spring training is coming up. It will be two days in February, with the field demonstration on the second day. Our field work will start March 1. There will be an aquatic biologist meeting in West Virginia this spring.

### Action Items (1:47 PM)

Matt listed the items he had identified:

- Next meeting is April 11. He invited people to come in person.
- Look out for a email from Ken M on a vote for the continuing members of the board. We still have that one At-large spot to fill. We are looking for suggestions. Tom Guay has been suggested.
- Committee chairs meeting in March. Please respond to the poll sent out to schedule the meeting.
- Speaker suggestions for our April meeting. Matt asked if John could present. John responded by saying, still at the early stages of the project. Someone from GreenVest might speak. Ken S asked for someone to present on PFAS. Matt related that MDE will have a comprehensive report on PFAS across the state by the end of the year. Ken S pressed the topic, relating a proposed ban on pesticides related to PFAS. He wondered what pesticides were relevant. Matt will look to see if we have anything more up to date on PFAS since December. Katherine reminded that the slides for Lee's presentation are available our the website.

Katherine added items:

- She will be sending out an email to schedule the conference planning committee meeting. They will start looking at bid paperwork for the Annual Conference to see about getting it submitted ASAP.

### Adjournment (1:54 PM)