Nontidal Network Workgroup Bi-Monthly meeting

Wednesday, February 21st, 2024
1:00PM – 2:30PM

Meeting Materials: **Link**
This meeting was recorded for internal use to assure the accuracy of meeting notes.

Participants

Ashley Hullinger (PA DEP), August Goldfischer (CRC), Bhanu Paudel (DE DNREC), Chris Mason (USGS), Cindy Johnson (VADEQ), Doug Chambers (USGS), Doug Moyer (USGS), Durga Ghosh (USGS), Ellyn Campbell (SRBC), Isabella Bertani (UMCES), James Colgin (USGS), Jamie Shallenberger (SRBC), Lori Brown (DE DNREC), Lucretia Brown (DC DOEE), Mark Brickner (PA DEP), Meighan Wisswell (VA DEQ), Mike Mallonee (ICPRB), Nieko Santoro (USGS), Peter Tango (USGS), Tammy Zimmerman (USGS), Tyler Shenk (SRBC), Tyler Trostle (PA DEP)

Action Items

- ✓ Continue to discuss proposal for Science and Technical Advisory Committee (STAC) workshop at future NTN meeting.
- ✓ In-person meeting in PA will be planned for the fall (location: either SRBC, or USGS PA Water Science Center).
- ✓ The USGS team working on the historical NTN data compilation will discuss whether or not to release their R code.

Minutes

1:00 PM Welcome, announcements, updates

Peter Tango (USGS) shared that there will be a Beyond 2025 meeting next week at the Susquehanna River Basin Commission (SRBC) headquarters. They are convening around recommendations. Thank you to those who have participated and provided feedback towards this effort.

Chesapeake Community Research Symposium will be June 10-12, 2024 in Annapolis, MD.

Martha Shimkin is the new Chesapeake Bay Program Office Director, after previously being the Deputy Director for 3 years. Lucinda Power is Branch Chief for the Partnerships and Accountability Branch, and Lee McDonnell is Branch Chief for the Science, Analysis and Implementation Branch. Khesha Reed, Deputy Division Director in the Office of Water, Office of Science and Technology of EPA, will join CBPO as Acting Deputy Director on March 10th.

Mike Mallonee (ICPRB) shared that Kathy Knowles (DE DNREC) retired at the end of 2023. The new contact for Data Upload and Evaluation Tool (DUET) uploads will be Tracee Cain moving forward.

Peter said that a new habitat and living resource data manager has been hired for the Chesapeake Bay Program and will start work shortly. Peter also let the group know that the Principals' Staff Committee (PSC) has asked for an update on the monitoring investments made following the monitoring review conducted through 2021-2022 and this update will be provided in June to the PSC.

Doug Moyer (USGS) shared that James Colgin, Chris Mason, Jimmy Webber, and Nieko Santoro have been working to compare Nontidal Network data that they can extract from the data hub and the water quality portal to the historical data set, to see how much historical data can be reproduced in the new data sources. There are some areas of historical data that were not transported to the data hub or water quality data. They have worked with DEQ and SRBC to get the missing data loaded into the water quality portal or the data hub. Otherwise, the majority of data have been identified and reproduced. The team is working on a quality assurance check of the data, and where any differences exist between data sets they will reach out to data providers to address that. James added that they had a 98-99% discoverability rate of being able to track down all data they've used over the years in either the water quality portal or the data hub. Some of it is not online, though, so they're working with data providers to upload anything missing online. Doug said James is leading the effort to make all this data publicly available and citable through a USGS data release. The raw data will be in an open file report, which is a citable USGS publication. It does not include interpretation of the data, but it describes how the data set was collected.

Isabella Bertani (UMCES) asked when the USGS data release will be out, and will the R code associated with that be part of the data release? Doug responded that the data release will be out in late summer 2024; however, if you are looking for data, the team can help you find it before the official release is out. James added that as far as the R code, the team will need to have a conversation about that and come to a decision, especially in regard to data they can't track down. James said the code will be available on the USGS GitHub repository at some point, but he is not sure if that will be public. Doug agreed. The focus is on getting the data released publicly, but they can discuss the R code at a future date.

Peter asked for updates from jurisdictions on the River Input Monitoring sites build-out. Doug Moyer shared the update for Virginia; they have instrumented all sites they received funding and instrumentation for, which are the Mattaponi at Beulahville, and the Appomattox at Matoaca. All 6 constituents are being monitored. They also added on one that was not part of the plan. The USGS VA-WV Water Science Center put up the support required to instrument the Rappahannock River at Fredericksburg. So all 5 RIM stations are instrumented and operational. There was nobody available to update for Maryland, but Peter said he was aware of work being done on the Patuxent in terms of relocating a site, and work being updated on the Choptank. Tammy Zimmerman provided the update for Pennsylvania; they don't have any RIM sites in PA but they are running the Susquehanna River at Columbia site, which is the most downstream site on the Susquehanna in PA before the Conowingo. Since August of 2022 that site has been

instrumented with 6 parameter water quality sonds. There are 3 different locations where they have that instrumentation on the Susquehanna; just upstream of the Columbia-Wrightsville bridge (the bridge is where historical NTN samples have been collected); and 1.9 miles upstream is the Marietta gage, which is where the stream flow for this site comes from. That was funded through the PA DEP.

Peter thanked everyone for their work on RIM buildout. He added that this data will also be helpful in determining the boundary conditions of the 4-Dimensional interpolator.

Doug said that the effort to integrate continuous monitoring data in analysis is being led by Jeff Chanat (USGS) working with Chris Mason. The first phase is to identify within the Bay and nationally some of the longer-term continuous data sets for specific conductance, turbidity and possibly nitrate. The team will subset some of those records to mimic a discrete record in parts to see what happens when you transition from a discrete record to a continuous data sense and see how variable that configuration is and what issues within Weighted Regressions on Time, Discharge and Season (WRTDS) are revealed. The second phase will be bringing those data in to generate loads and trends with WRTDS with that same type of design. The analysis will also include some surrogate derived data sets (for example, use of turbidity to predict suspended sediment). These will be brought into the analysis to see how those constituents respond with that transition from discrete to continuous. Chris confirmed they are aggregating continuous monitoring sites in the contiguous US, focusing on nitrate right now, running some break scenarios with the script Jeff created. They're also in touch with Bob Hirsch and Laura DeCicco who are also interested in getting a ubiquitous analysis across the USGS centers. Doug added they are going outside the Bay watershed because they partnered with USGS water missionaries which brings in additional funds for the effort, and their focus is more national. Funds are coming from USGS and EPA within the Bay Program as well for this. Looking at national data allows for a broad perspective and addressing any issues that may be overlooked within a more limited geography.

Tammy Zimmerman updated the group on the two small agricultural watershed monitoring sites in PA. The sites are Hammer Creek in Lebanon County, which is 12.8 square mile drainage area basin; and the Little Conewago Creek in Lebanon County. The sites are being run like NTN sites but it has all the continuous water quality equipment. At Hammer Creek, SRBC and DEP were already doing work in that basin. SRBC is doing the monthly and storm sampling (USGS is running the gage). The Little Conewago instrumentation has been in since December 2023. Penn State is doing the routine sampling there, and SRBC is doing the storm sampling, and USGS will run the stream gage. There are potential sites in VA, MD, and DE.

Doug added that the site in VA that was selected was War Branch in the Smith Creek Watershed in the Shenandoah Valley. Jimmy Webber is leading the effort on this and has the equipment, but the site has not yet been instrumented. It's being worked out with VA DEQ to have the samples collected there and analyzed by DCLS. Jamie Shallenberger (SRBC) said that in Hammer Creek, SRBC has had continuous in stream monitoring station that is about 2 miles downstream

the new station. This site has been up for 4 or 5 years, and has temperature, DO, conductivity, turbidity, and pH, and is coupled with grab water quality samples every quarter and an annual macroinvertebrate survey. Next week SRBC will be adding a nitrate sensor as well and will try to sync up their grab samples for nitrate with the activity upstream. Jamie added that the new station is right in the catchment where the dominant land use is agriculture, whereas the existing station is in state game lands and forested.

Peter added that the small agricultural watershed monitoring effort came from the PSC Monitoring Review recommendations.

Peter commented that there is an idea for a STAC proposal for a workshop on sentinel sites; originally envisioned as Submerged Aquatic Vegetation (SAV) in tidal areas but has since been expanded to integrated monitoring sites in tidal and nontidal areas. There is an effort to sync up with CSIRO to discuss design of sentinel sites on a global scale. Part of the workshop proposal is to think about shaping sentinel site design in the Bay, watershed and beyond.

Peter suggested an in-person meeting in the fall, and rotate locations every 6 months to different places in the watershed. Jamie said SRBC would welcome the group to come to Harrisburg. Tammy offered the PA Water Science Center as a location for an in-person meeting.

Peter stated that Lee McDonnell is supportive of funding from EPA for field audits, and getting funding is in progress.

1:30 PM **Report out from data providers** - all

Data providers were requested to share their data through WY2023 by the end of March 2024 to Mike Mallonee so it can be included into the NTN load and trend analysis later this spring.

Tammy Zimmerman said regarding the sites PA USGS monitors, they have 3-4 storms at each site, and routine sampling is going well. Tyler Shenk said for SRBC sites they have about 4 storm samples per site except for the new Hammer Creek one which just came online in January. Bhanu Paudel (DE DNREC) said that he had not heard any problems with any sites. He said the lab is planning to submit the data at the end of the month. Doug Chambers (USGS) shared for West Virginia, they have 3-4 storm samples at each of their locations. He said there are some challenges to meeting the March 2024 deadline for both West Virginia and Maryland. There is a delay in receiving their data from the National Water Quality Laboratory (NWQL) for one analysis for total dissolved nitrogen. They are well behind. This is for samples collected in WY23, going as far back as some samples collected in July or August.

Mike Mallonee (ICPRB) said feel free to submit whatever you have, and when the missing data comes in just reload the data set. Doug said that is his plan and he will revise and update when the missing data comes in.

Cindy Johnson (VA DEQ) said VA DEQ is up to date on its data submittal. Doug Moyer said on the USGS VA side, they've been working to secure an agreement which means they have no funding

to support data collection across the NTN. The center has been trying to keep up with storm samples as they come up. The lawyers have approved the documents so hopefully this is the last year as the center transitions from a joint funding agreement to a reimbursable agreement originating from EPA as a requirement to DEQ. Hopefully, the funding will come soon, but the plan is to still have all the samples collected by the end of the agreement year, which is June.

Lucretia Brown (DC DOEE) said they just finished the FY2023 samples. They finished their grant agreement for FY2024. They will have to figure out a way to get the samples together more quickly for analysis and data processing because it's having an effect on sample availability when they do the integrated report. Typically, they've had to get extensions into the next fiscal year; it's taken more than the 12-month time frame. They will work with Brenda Majedi to come up with a plan to address this issue. Peter said to let him know if there's anything he can help with. Lucinda said it may be the quality assurance checks that are taking so long, and getting the data validated and on the website is the slow down.

1:55 PM Contingency plans for lab issues – all

Peter shared appreciation for everyone's support during issues when a lab is down, and asked if there is any model that should be followed during short- and long-term issues. Are there labs that are available to us that are not part of our normal repertoire of labs?

Mark Brickner (PA DEP) said they had discussions with their lab around transparency on what the issue was; that was an issue. It wasn't as big of a deal as it was made out to be, luckily. Mark thanked everyone who offered to take on samples (SRBC and USGS), and that they are discussing where samples could go in the event of another issue. Jamie Shallenberger underscored that there was an issue with communication and the issue was not as big as they'd feared. He added that SRBC is happy to participate in planning for the future with PA DEP. One question is, would resources to continue with a different lab come from the existing contracts or would they need to establish something new, should a longer-term issue arise. Mark said PA DEP is in talks to build a new lab that will be a Department of Health and Department of Agriculture combined lab. DEP may need to coordinate some other lab usage until that lab is up and running.

Doug Chambers said if problems don't start clearing up with NWQL, they'll look for another provider of analytical services among USGS labs. He said let him know if you have any recommendations. Peter asked if that was just about the TDN issue, or if they're looking for the full suite of analyses. Doug said the full suite of nutrient analyses.

2:15 PM STAC funded meeting proposal

The NTN would like to put forward a proposal for a STAC funded meeting to share the RIM and NTN updates and discuss how to maximize the value of these data and what they're telling us, and how they can inform future of the Chesapeake Bay Program. The STAC proposals are now

split into two time periods, so this would be submitted for the second deadline in summer 2024.

Peter said that they may develop a proposal that may include tidal as well as nontidal; and asked the group for feedback on broadening the proposal vs keeping it to the NTN. This will need to be developed by the end of summer.

2:30 PM Adjourn

Next Meeting: April 24th, 2024 - Data Integrity lab members will be invited to participate in QA and final confirmation of the database.