



Non-Tidal Network Meeting

Wednesday, March 17, 2021

1:00 PM – 2:30 PM

Meeting Link*:

<https://umces.webex.com/umces/j.php?MTID=maf7d9a137a3240e3c3818f2b52bae86b>

Meeting Number: 120 256 7419

Password: CBPNTN

Conference Line: +1-408-418-9388 Access Code: 120 256 7419

Meeting Materials:

https://www.chesapeakebay.net/what/event/non_tidal_network_march_2021_meeting

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This meeting will be recorded for internal use to assure the accuracy of meeting notes.

Action Item

- ✓ **Consider including other questions to address in the planning document:**
 - What are the objectives of the respective networks?
 - What changes do the respective networks want to make to those objectives?

AGENDA

1:00 Welcome, Introductions & Announcements

- Conococheague update - good news to share – **Peter Tango** (USGS@CBPO) & **Mark Nardi** (USGS)
 - One of the vulnerabilities in the network was losing the Conococheague station. This issue was brought forward at the Principals' Staff Committee (PSC) meeting. Results of the discussion included support from EPA for long-term funding of the station to maintain the integrity of the network.
- Mike Mallonee reminded the Nontidal network providers they are in the process of submitting the WY2020 data into DUET.
- At the Chesapeake Bay Program, the current Director, Dana Aunkst, is taking an EPA position at Region 3 in Philadelphia. The Acting Director will be Michelle Price-Fay from the Water Division. As a reminder the Deputy Director, James Edward, retired, and Bill Jenkins is in the acting position. The STAR co-coordinator Emily Trentacoste is also taking a full-time position at EPA Office of Research and Development (ORD).

1:10 Addressing the PSC request to improve CBP monitoring networks - Peter Tango & Scott Phillips

- Overview of PSC request to improve monitoring and relation to NTN: Scott Phillips

Lee McDonnell provided an overview [presentation](#) of the Chesapeake Bay Program (CBP) Partnership monitoring networks at the PSC meeting. Members at the PSC level wanted to look at CBP budgetary issues, and it provided an opportunity to provide them an overview of the network of funding allocations from EPA and federal, state and local partners that support the monitoring efforts that go into monitoring outside of collecting samples. After the presentation, the PSC requested more information what needs to be done to make the monitoring network more complete. This conversation aligns with the Non-tidal Networks previous conversations on what needs to be done due to flat funding and the loss of stations. As a result, our monitoring community has been tasked with a review of the monitoring program and provide a framework for what our networks need to be in order to fully address management decision-support.

Scott Phillips mentioned Lee McDonnell presented on four different monitoring networks – Non-tidal, Tidal, SAV, and Benthic – and commented how the network is currently only operating on a fair level. The PSC therefore wants to know how to improve it. There are two issues to address. The first is to stop the erosion of the network, and the second one is how to improve it. There is an initial plan for how to proceed to answer those questions, but Scott would like feedback from everyone on additional questions or strategies to answer the request. There is not additional funding available to improve the monitoring networks so the different networks will need to make the case of what the existing funding can provide and then identify where they need to close the gaps to improve the network. The members of the PSC are the secretaries of the respected agencies so they can influence funding from those agencies to support the monitoring networks.

Bruce Michael said going through this process brings attention to the importance of the monitoring network and attention to the flat funding for multiple years. He stated the monitoring networks cannot keep providing all the information they have in the past with flat funding due to increased costs, living conditions, etc. This process also provides attention to all the groups the monitoring network information benefits. If there is not additional funding, a group will not receive the information they use to get in the past. This effort will also get this information out in front to other agencies and not just EPA.

Joel Blomquist said for the tidal water quality monitoring network there is a note to improve the assessments. He suggested they will want to make sure it parallels it with non-tidal and other activities. They can use this opportunity to see how they can improve the results and better meet people's needs. Scott Phillips suggested maybe the

first question is what are the objectives of the respective networks and what changes want to be made to those objectives.

- [Developing a work plan to address the PSC request](#): Peter Tango

Peter went through the already established groups and materials that can lead to answering the proposed questions for their monitoring network. Through the Strategy Review System, the tidal and non-tidal network needs and next steps for the next two years are included in the Water Quality Standards Attainment and Monitoring workplan. The Non-tidal Network will lead tackling the questions for the non-tidal monitoring network. The Criteria Assessment Protocol Workgroup along with new subgroups may handle the tidal questions. For Submerged Aquatic Vegetation (SAV) monitoring network, there is a current SAV Workgroup along with a STAC workshop to consider using satellite imagery over ariel flight images.

Tom Parham asked what group will pull together the tidal information since multiple groups are tackling it. Peter commented they have submitted a STAC Workshop on advanced monitoring with a focus on tidal monitoring, and he thinks the workshop group is where the information will be pulled together. If it is not funded, Peter Tango said he will set a group for it.

Joel Blomquist noted that there needs to be a diversity of opinions when discussing this issue. It is a great time to get outside comments on what they would like to see instead of asking only those that work with the monitoring information on a day-to-day basis.

- Issues to consider:
 - 9 month time horizon for all groups to address PSC related information needs
 - This effort will be tied to a broader body of work on network assessment growing across a suite of teams and workgroups in the CBP including: a STAC workshop proposal for tidal monitoring updates (e.g. SAV and light availability assessment, CHLA assessment in Bay), Fisheries Forage Action Team needs for tidal macrobenthic invertebrate assessments, and Citizen science monitoring applications. Also, a development team has been established around analysis updates to work with new data sources (i.e., a 4D water quality estimator development team) for the tidal bay.

1:25 – 2:30 Developing information to improve the NTN – Peter Tango & All

What needs to be done to stabilize station losses due to inflation?

What needs to be done to improve the network?

1:25

Discussion Question: How well has the last decade of investment fulfilled collective needs? Round Robin

Peter Tango provided some information on efforts in the last decade. In 2009, there was a presentation on the optimization and effectiveness of the monitoring network. It provided the objectives of the Non-tidal Networks which has been carried through to today including measuring and assessing the status and trends of nutrient and sediment concentrations, assessing factors affecting the status and trends, and improving the calibration of the watershed models. The presentation also included questions that were outlined by a STAC Review for needs of watershed monitoring which may help this group consider how well the monitoring network has done in the last decade.

Joel Blomquist said the real question may be how many decisions made by the partnership were accepted due to solid data from the monitoring network. An example is the Conowingo, and there has been a lot of efforts to work on the TMDL and WIPs that are based on the monitoring data. There are also science foundation reports that benefited from the investment in the networks.

Bruce Michael said there is a lot of examples on how the data has been used to support management decisions. For the Conowingo, data has driven the entire Conowingo WIP. Federal Energy Regulatory Commission (FERC) has Conowingo as a topic on the upcoming agenda. There is an agreement between Maryland (MD) and Epsilon Associates to address water quality problems with the Conowingo providing \$250,000,000 over 50 years. Bruce hopes FERC approves the agreement. Most of the money goes to MD Department of Environment (MDE) and MD Department of Natural Resources (DNR) for implementation, but hopefully some of it goes to monitoring. One of the initial projects is freshwater propagation and restoration. MD DNR is creating a freshwater mussel hatchery and putting mussels out in the Bay where there are problems due to the Conowingo Dam.

Peter Tango also stated the community depends on the modeling output to understand how they are doing for the Total Maximum Daily Loads (TMDLs). The modeling depends on the monitoring data to compare the observed with the modeling output. IN places, and at times, for different parameters, there has been divergence between these two results, but it provides verification of efforts across the watershed.

Doug Moyer said with his experience in the jurisdiction meetings, there is value in the observed data, but in the meetings, it has limited reach for management decisions because there is not monitoring data everywhere. The most important part right now is to not separate the observed data and the modeling data

because together it provides information for jurisdictions to support decision making. The greatest impact we can have is making sure the patterns they are seeing that are essential for managers and decision makers are at a minimum incorporated or represented into the model.

Lee McDonnell stated on the topic of what informs the model, he would like the jurisdictional partners to look at their stations and evaluate their use even outside of the immediate needs for the CBP. He would like them to prioritize the monitoring stations and state their importance. Tom Parham said the questions Lee proposed fits well into the earlier efforts of prioritizing sites due to loss of funding.

1:40

Discussion Question: What are some of the new science needs that should be considered for the network?

- [NRCS-EPA-USGS project update on Ag related BMP effectiveness](#) - Ken Hyer & Mark Nardi

Last summer, NRCS and EPA launched team to look at funding for water quality monitoring and communication. The Federal Water Quality Monitoring team was established to coordinate water quality monitoring and analysis activities to assess the impacts and challenges of voluntary agricultural conservation practices, also known as best management practices (BMPs), on the quality of local streams, rivers, and the Chesapeake Bay. The objectives of the team are to identify watersheds with the greatest impact of monitoring conservation work, identify opportunities to better coordinate federal and state water quality monitoring programs and interpretation of results to assess the impacts of BMPs, and identify approaches to improve communication.

There were three teams associated with this effort. There was the Water Quality Monitoring Team, a Communication Team, and a Funding Team. Mark Nardi focused on the Federal Water Quality Monitoring Team. The work was finished in November 2020, and the results were presented at the regional executive level in December 2020. The overall goal was to further coordinate water quality monitoring, interpretation, and funding, and it was aimed to assess the impact of agricultural conservation practices. A nested approach was considered where changes in water quality being first observed in the headwaters. Observations are first made on the field scale to the watershed scale to see if BMPs are working and where the best investments are possible.

The Federal Water Quality Monitoring Team reviewed the monitoring and analysis activities and had three major findings:

- Strong Chesapeake Bay Non-tidal Monitoring Network and others

- Really strong at the regional and watershed scale, but they are lacking strategic monitoring at finer scales
- On-line tools available to compile WQ Data (How's my watershed)
- Studies to assess impacts of practices on WQ

The recommendations from the findings include identifying watershed with the greatest needs and opportunities for monitoring impacts of BMPs. They plan to work with different agencies to create a map and do the analysis for understanding siting of BMPs. Another recommendation is to identify opportunities to further coordinate WQ monitoring programs and interpretation of results. They want to leverage the current monitoring system to best support the current BMP implementations. The final recommendation is to improve communication to engage decision makers. As a result, the next step is to have a Senior Executive Briefing, but a lot will depend on findings from the Funding Team.

Doug Chambers asked if this effort can be viewed as an expansion of the existing network or is the effort trying to reduce the demand of this current monitoring network to free up funds to support these other ideas. Ken Hyer said as the Water Quality Monitoring Team, they looked at the needs of the network, and the Funding Team is looking more at how to enhance the network. The hope is to bring in additional resources to drive this effort and expand the existing network. Doug also asked if NRCS is aware that USGS supported monitoring to review NRCS BMP implementation for the showcase watershed for 7 - 8 years has been discontinued. Is NRCS considering reinstating monitoring in areas they had the heaviest impact? Ken said those areas currently have a lot of investment, so it listed as sites they need to assess. Mark Nardi said the idea of looking at BMP implementation through time and across the landscape is the priority. This information will then be used as a component to drive where monitoring should go. Ken also added that the reports have been reviewed by each agency so one next step is to identify criteria used to identify sites that would highest priority.

Doug also asked if they are considering the stability of the current Non-tidal Network before trying to expand it. Peter Tango said in the process described earlier in the meeting they will take the time to define stability so it will depend on their assessment of the monitoring network. Mark Nardi suggested one role for the Non-tidal Network team to look at coordination between base NTN and what it looks like up in the watershed. Joel Blomquist commented they do not need to use the same tools when they have specific questions. Ken said he agrees innovation will be beneficial when trying to reach a smaller scale and trying to expand the network instead of taking away from current efforts.

- Common themes from jurisdictional meetings – John Clune

John Clune, Jimmy Webber, and Alex Soroka are working on an effort to provide science support to the jurisdictions. Today's presentation is focused on the outreach to the jurisdictions and how they have organized the priority researched questions. Virginia and West Virginia are ahead of the other jurisdictions in setting up the EPA led technical assistant meetings. Maryland had their first meeting in Fall 2020, but they have not followed up. What the team is doing to fill these gaps is to set up conversations with USGS, conservation district levels, and state department levels. John Clune said there was a delay in the technical meetings for PA, but the first one will be this coming week. They are doing a grass roots effort in New York to get in touch with people because they too have not set up a technical meeting.

The listening sessions they have held have led to common themes of priority research questions. The first theme is water quality trends and response to management efforts to explain why trends vary across the watershed. Another theme is BMP implementation, placement, and distribution. It is looking at monitoring data and watershed characteristics and how it can be incorporated into Chesapeake Assessment Scenario Tool (CAST). Climate influences on water quality is another theme because changes in temperature and precipitation impact the transport of nitrogen, phosphorous, and sediment in streams.

Interest in the time between management action and water quality response leads to the theme of legacy nutrients and lag times which will be different for different nutrients. The next theme is sediment dynamics and reservoir filling because there are different types of sediments across the watershed along with different process so this theme groups together questions related to those topics along with a special focus on the lower Susquehanna. A lot of states have different water quality standards and there are different CBP goals, so they grouped these differences in the theme of water quality benefits to biological condition and human health. The last theme is non-tidal influences on estuarine response and standards attainment to help understand how water-quality trends in the watershed compare to trends in receiving bodies of water.

Peter would like to come back to this discussion and connect it with the Strategic Science and Research Framework. Both efforts identify research needs that need to be answered. Ken Hyer said they are documenting the priority questions as they move forward with the meetings, and next steps will be to prioritize the research questions because they partnership will not be able to answer all of them in the next few years. He mentioned he would like to bring the prioritized list back to the NTN team to get their feedback.

2:05

Discussion Question: What are some of the analysis and next steps should we consider for the network?

- Short term: From our last meeting - Continued need for the vulnerability analysis/stations that funding might be repurposed to address priorities/address at risk stations for funding loss, and inform decisions pending budget and network change considerations – Peter Tango & Ken Hyer
- Team process on evaluating investments into existing protocols over 123 stations, or strategically improving assessments and revising the network and sampling protocol - what resources are available for this work over the next 9 months? – Peter Tango, Joel Blomquist, & Mark Nardi

This information was captured in the “NRCS-EPA-USGS project update on Ag related BMP effectiveness” topic above, and it will be discussed in future meetings too.

2:30

Adjourn

Input for future NTN Meetings – Please review the list below on your own time before the next meeting in April. Please share insights on focus topics and issue discussions needed to address information needs supporting program management activities through our work during future NTN meetings. Thank you.

Looking ahead at topics to include in our future 9 months of work regarding our move from Good to Great network operation and effective, management-relevant outputs, do you have other ideas to get on the agenda? Initial list:

- Resource for linking network evolution with science needs in the CBP: Science needs database of the Strategic Science and Research Framework (Breck Sullivan)
- BMP effectiveness and climate influence on performance. (Julie R and/or Mark Bennett)
- Climate change and a watershed temperature indicator: future directions under consideration (Julie R)
 - Also, around 2015, EPA had developed a draft Climate Change Monitoring Network of 31 sites (as I recall) across our region. Perhaps in a future meeting we can pull this up and examine its potential utility in directing network updates where it converges with the landscape of information needs as we know it today.
- Existing water quality sampling protocol (routine and storms) - are we ready to adapt our protocol for improving insights on

assessing watershed response to management actions? (Focus team)

- Improved use of data with improved analyses (Joel B)
- Budget considerations - flat funding, targeted funding, prioritizing station adjustments to improve outputs from the network.
- Potential to speak to work linking living resource assessments at stations with water quality assessments fulfilling multiple needs in research and management. Note: At an ad hoc Balt meeting in 2020, Peter asked the office if there are folks interested in contributing to macrobenthic assessments - there was a strong positive response for interest. There are further ties to CBP outcome needs and ties into USGS living resource pivot/e.g., improve Kelly Maloney benthic model of the watershed. Consider this opportunity as part of network operations and evolution.
- Others

Next meeting: Wednesday, April 21, 2021, 1 PM – 2:30 PM

Participants: Peter Tango, Scott Phillips, Breck Sullivan, Ken Hyer, Mark Nardi, John Clune, Joel Blomquist, Kristin Hyer, Tom Butler, Cindy Johnson, Curtis Schreffler, Doug Moyer, Doug Chambers, Andy Gavin, Jamie Shallenberger, John Dilliow, Lee McDonnell, Lucretia Brown, Mark Brickner, Tom Parham, Mike Mallonee, Tammy Zimmerman, Tyler, Lecricia Brown, Alex Soroka, Bruce Michael