Nontidal Network Workgroup Monthly meeting

Tuesday, January 31st, 2023
9:00AM – 10:30AM
Meeting Materials: Link

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

NEXT STEPS

- The Integrated Trends and Analysis Team (ITAT) will have a discussion on preventing data issues at a future meeting (complementary to similar discussions at the Nontidal Network Workgroup and the Data Integrity Workgroup).
- Durga Ghosh (USGS) will present on the Quality Assurance/Quality Control (QA/QC) system at the next Data Integrity Workgroup (DIWG) meeting and at a future Nontidal Network Workgroup (NTN WG) meeting.
- Peter Tango (USGS) will update the NTN WG's mission statement and bring the updates back to the group for approval.
- The NTN WG leadership will narrow down sites selected for small agricultural watershed monitoring by March based on both USGS analysis and jurisdictional feedback and have the final selections before April.
- Workgroup members will provide feedback to Ken Hyer (USGS) and Nieko Santoro (USGS) on small agricultural watershed monitoring selection. They will say if any sites are missing from Nieko's analysis and what those sites are. Members may email Ken (kenhyer@usgs.gov) and Nieko (nsantoro@usgs.gov) or utilize the small watershed site selection feedback form.

MINUTES

1:00 PM Welcome and announcements

- National Water Quality Monitoring Council's 13th National Monitoring Conference - April 24-28, 2023, Virginia Beach, VA.
- Species on the Move – May 15-19, 2023, Everglades National Park, FL.
- Interagency Conference on Research in the Watersheds (ICRW8) – June 5-8, 2023, Corvallis, Oregon.
- CERF 2023 Conference: Resilience & Recovery – November 12-16, 2023, Portland, Oregon. Abstracts due May 10, 2023.
- Citizen Science Association conference, C*Sci 2023 - May 22-26, 2023, Arizona State University campus in Tempe/Phoenix, Arizona.

Peter Tango (USGS) announced that Scott Phillips (USGS) would be retiring in March.

Chris Mason (USGS) announced the USGS revision to the 2020 loads and trends. There is an updated data release announcement. He said that the ArcGIS StoryMaps have been revised as well. The River Input Monitoring (RIM) Nontidal Network 2021 pages are available, in addition. Chris said that as a segway to RIM 2022 he sent out an email to the sites involved to get approval for that water year. He is hoping to get started on those within the next month. He added that it's never too early to talk about preventing these data issues for the future.

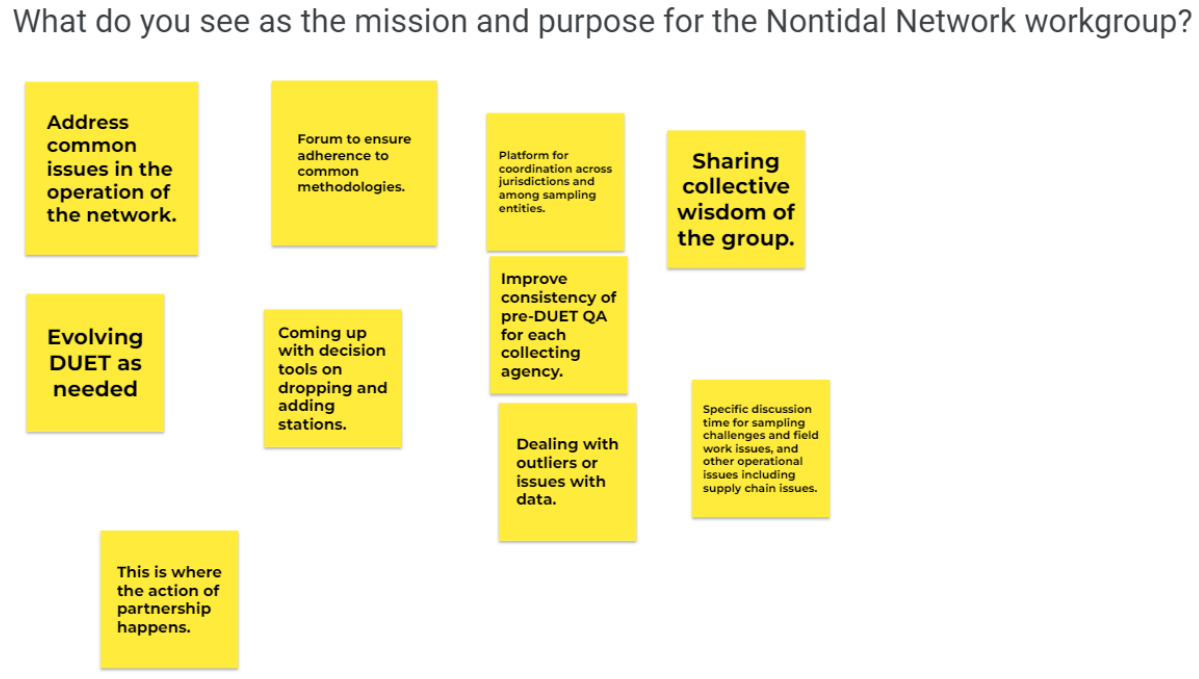
Kaylyn Gootman (EPA) said the Integrated Trends and Analysis Team (ITAT) would like to have that as a topic on a future ITAT meeting. Doug Moyer (USGS) said a major topic for a future NTN meeting will be discussing the data used for computing loads and trends historic and current, and how to work together to ensure the integrity of past and present data. He said that NTN leadership will be seeking the input of the NTN Workgroup as well as input from the Data Integrity Workgroup (DIWG) and ITAT.

1:05 PM Round Robin: What is our mission?

Discussion Questions: (Jamboard)

- What is the mission and purpose for the workgroup?
- What do you hope to get out of participation in these meetings?
- How often should we meet? Monthly/quarterly/bi-monthly? How many hours?

Jamboard responses:



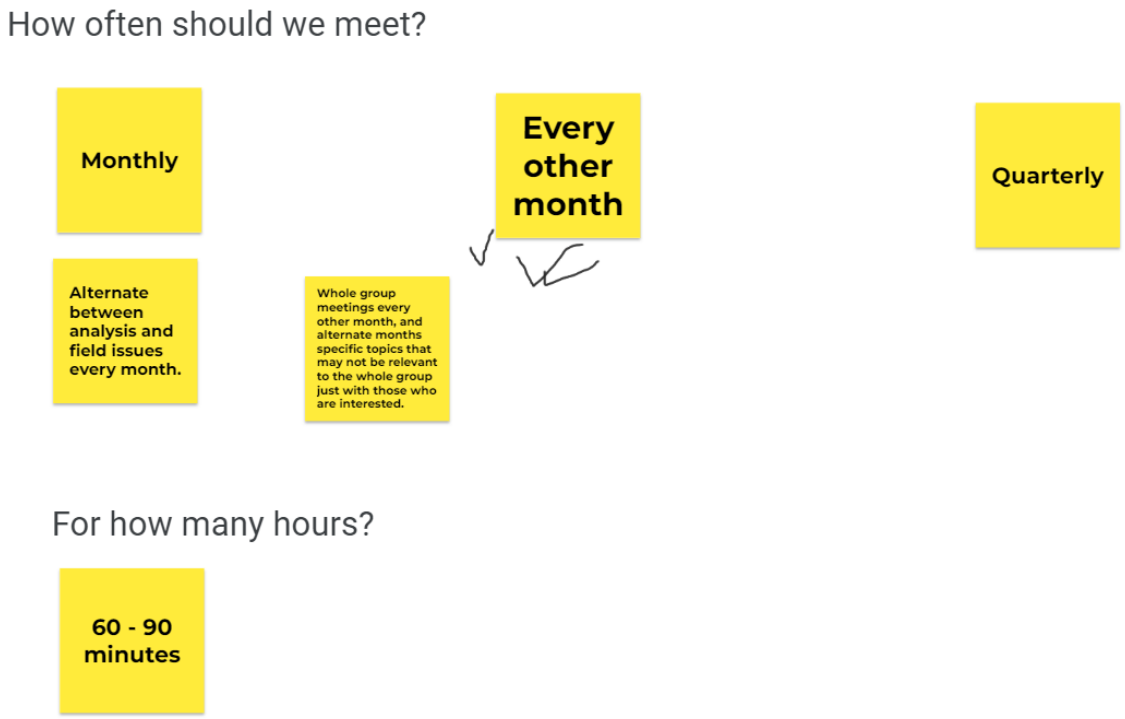
Question: What do you see as the mission and purpose for the Nontidal Network workgroup?
Responses:

- Address common issues in the operation of the network.
- Evolving the Data Upload and Evaluation Tool (DUET) as needed.

- This is where the action of partnership happens.
- Forum to ensure adherence to common methodologies.
- Coming up with decision tools on dropping and adding stations.
- Platform for coordination across jurisdictions and among sampling entities.
- Improve consistency of pre-DUET Quality Assurance (QA) for each collecting agency.
- Dealing with outliers or issues with data.
- Sharing collective wisdom of the group.
- Specific discussion time for sampling challenges and field work issues, and other operational issues including supply chain issues.

Question: What do you hope to get out of participation in these meetings?
Responses:

- Coordination and collaboration.
  Data trends and looking forward.
- Increased consistency and improved data quality.
- Understanding how to treat continuous data as we do discrete data.



Question: How often should we meet? For how many hours?
Response: 3 check marks on every other month. Alternate between analysis and field issues every other month. Whole group meetings every other month, and alternate months specific topics that may not be relevant to the whole group just with those who are interested.

Discussion:

Managing networks, coordinating monitoring and assessment with additional networks came up as goals of the workgroup. Peter Tango (USGS) went over current objectives listed on the Nontidal Network Workgroup page and asked if anyone had changes to suggest, or if the current objectives were still accurate and correct.

Cindy Johnson (VA DEQ) said the current goals are pretty good, but the group might want to focus a little more on Quality Assurance/Quality Control (QA/QC), like what Doug talked about earlier. The Bay program has developed a QA/QC program for people to check their data. Durga was going to present on it to the Data Integrity Workgroup (DIWG) at the DIWG's next meeting on February 28th, 2023, and it might be a good idea to present it to the NTN WG as well. Doug Moyer (USGS) said that the fundamental purpose of the workgroup is ensuring application of consistent methodology to collect samples across a full range of hydrological conditions so there is consistent data across the network. The other part is improving the consistency of how each collecting agency is doing QA on those data before they go to DUET. As people are generating data sites, is there a role the NTN WG can have on individual sites outliers or issues with the data? How can each agency deal with outliers given they are the owners of the raw data? An additional purpose, Doug added, is evolving the network locations and technology

used to collect and analyze data. Peter added that coming up with decision rules on dropping and adding stations is another component of the workgroup's mission.

Kristen Heyer (MD DNR) said at one point there was a small group discussing the details of sampling challenges and she found that helpful from the field work perspective. Doug Moyer agreed and said that he and Cindy Johnson have a training day for new staff and technicians who email them with challenges. Doug Chambers (WV DEP) said the NTN WG should be a forum for some of these operational issues, whether it's related to training, or to other topics. Tammy Zimmerman (USGS) added that supply chain issues is also a key issue and it would be helpful to know what other solutions people have come up with and share solutions across centers and agencies.

Kaylyn Gootman (EPA) said she sees the collecting agencies as local experts on different parts of the watershed. Supporting how to build the narrative around the network and these data is important, and this workgroup can be where the action of partnership happens. Peter added continuing to build the narrative of the value of the network is another objective. Kaylyn said the NTN is a valuable resource for data driven decision making.

Bhanu Paudel (DE DNREC) said he agrees with what's been said and introduced himself as a new member of the group. Bhanu has been at DE DNREC since 2018 and is in the water assessment and management section. Lori Brown (DE DNREC) also introduced herself. She is not new to the Chesapeake. She used to work in the nonpoint source section prior to coming over to watershed assessment.

Tyler Shenk (SRBC) said he'd be very interested in the field operations discussion, especially equipment needs, and the DUET discussion as well.

Peter said that he will capture this and update the NTN WG scope and purpose statement accordingly. He asked if training days could be open to other jurisdictions. Doug Moyer added the topic of historical data – are all data prior to 2012 that are used for the NTN located in the water quality portal? He asked, to rebuild the entire historical dataset and run it through DUET, is there access to those historical data? Peter mentioned Goal Implementation Team (GIT) funding as a source for this project and that at future meetings the group can generate proposal ideas. Doug Moyer added another topic is talking about needing to treat continuous data as discrete data is treated, and how to do the analysis with both kinds of data. Tammy added that at future meetings it would be good to have presentations from jurisdictions that have continuous data results.

Doug Chambers suggested meeting every other month, but Doug Moyer said the group might need every month. He said as the loads and trends are re-run starting this summer there are a lot of tasks that have to happen on the analysis side and there are monitoring questions as well. He suggested having some form of meeting every month that alternates between analysis and field issues. Mike Mallonee (ICPRB) commented in the chat that it is important to address the issue of historical datasets.

Peter suggested as a compromise to have larger meetings every other month and smaller meetings in alternate months to work on specific things that aren't relevant to everyone.

1:40 PM Report out on Monitoring Kick-Off Meeting – ***Peter Tango (USGS), Mark Nardi (USGS), Amy Goldfischer (CRC)***

This item was postponed.

1:50 PM Presentation on small watershed site selection – ***Nieko Santoro (USGS)***

- Investigating water quality monitoring activities in the Chesapeake Bay with an emphasis on small watershed, high agricultural/low urbanized areas.

Nieko was tasked with building a database of all the water quality activity in the Chesapeake Bay, with both known and unknown sampling. Known sampling are sites reported to water quality portal and unknown sampling are sites that aren't reported. Nieko looked for areas lacking in monitoring data that were reported to the water quality portal. Then, he created an objective way to investigate sampling locations and the information associated with them. He emphasized small watersheds with high agricultural impact, low urban development, and nutrient sampling with data available. This information can be used to expand the network. He started with sites collected from the water quality portal. The sites that made the cut of potentially being eligible to be added to the nontidal network required at least five years of nutrient data collected and six or more sampling trips logged. He contacted 62 different conservancy, environmental and river keeper groups to fill in gaps for data not reported to portal. Then, he analyzed all the water quality data to find 5-10 small watershed sites. Nieko explained in more detail the steps he took in the analysis and the criteria he used, starting with over 350,000 sites and narrowing down to 49 sites that met all the criteria.

Ken Hyer (USGS) added for context that the group had previously asked people to nominate potential sites with implementation and monitoring. He said leadership still wanted to hear jurisdictional input on which sites will make good small agricultural monitoring sites. They wanted to come up with an independent approach to identify sites across the watershed that would make interesting candidates to consider. Eventually, these two methods will be brought together: the unbiased analysis will be aligned with local practical knowledge in order to come up with 5 outstanding sites. Ken added that the average size of HUC12 watersheds is 30 square miles. Based on Nieko's analysis, WV had no sites, PA and NY had few sites, DE had 3, MD had 19, NY had 1, PA had 4, and VA had 22. It fell across 6 organizations collecting the data in these areas. Nieko then went over a few example sites and their data breakdown. Ken noted in the chat these are not their final recommendations, just examples that met the criteria. Nieko said he has datasets from all the sites in a spreadsheet posted on the calendar page if anyone wants to look at it, and requested input from members via a feedback form.

Discussion:
Peter asked about Best Management Practice (BMP) implementation in candidate watersheds. Kaylyn added she's curious about how the results compare with where implementation is

across the watershed and suggested maybe looking at Chesapeake Assessment Scenario Tool (CAST) data. Nieko said one of the steps he didn't include in the final 49 sites was using the National Environmental Information Exchange Network (NEIN) database to see how close BMPs were to any of these sampling locations. James Webber (USGS) commented in the chat that Olivia Devereux recently completed a data release of BMP effects, as estimated by the CB-WSM, downscaled to NHD-segments. These data could be used to evaluate the potential magnitude of BMP effects in any candidate Chesapeake Bay watershed. Kaylyn asked, were you looking at agricultural BMPs or just urban ones? Nieko said only urban BMPs because of restrictions on the database but he's working on getting access to agricultural ones.

Peter mentioned that the land change data could be a resource to look at sites that are sensitive to change. Ken added it would be good to get feedback if anyone is uncomfortable with the process or see anything missing and that now is a good time to add additional filters or make any changes. Peter commented that brook trout are heavily impacted at 10% urban. Ken explained they had an iterative process to apply the filters, and as they increased the percentage of urban in some parts of PA, they lost a lot of sites. He said if the sites people selected aren't on their list, they want to know why. He said the homework for the group is to tell Ken and Nieko if sites are missing, what they are and why were they missing, and to ask any questions about that process.

PARTICIPANTS:
Amy Goldfischer (CRC), Bhanu Paudel (DE DNREC), Chris Mason (USGS), Cindy Johnson (VADEQ), Doug Chambers (USGS), Doug Moyer (USGS), Ellyn Campbell (SRBC), James Webber (USGS), Jamie Shallenberger (SRBC), Kaylyn Gootman (EPA), Ken Hyer (USGS), Kristen Heyer (MD DNR), Lori Brown (DE DNREC), Mark Brickner (PA DEP), Meighan Wisswell (VA DEQ), Mike Mallonee (ICPRB), Nick Murray (WV DEP), Nieko Santoro (USGS), Peter Tango (USGS), Tammy Zimmerman (USGS), Tyler Shenk (SRBC)