

**MINUTES**  
**Data Integrity Work Group (DIWG)**

**Virtual Meeting**

**Wednesday, July 30, 2025**  
**12:00PM-3:00PM**

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

**Participants:** Allison Welch (CRC), Jay Armstrong (DGS), Alexandra Fries (UMCES), Becky Monahan (MDE), Breck Sullivan (USGS), Carl Friedrichs (VIMS), Suzanne Doughten (ODU), Mariah Smith (ODU), Heather Wright (ODU), Nianhong Chen (UMCES, Horn Point Laboratory), Meg Maddox (UMCES, Horn Point Laboratory), Durga Ghosh (USGS), Emily Young (ICPRB), Gabriel Duran (CRC), Jacob Kilczewski (MDH), Samira Azemati (MDH), Ryan Kearney (MDH), Jamie Shallenberger (SRBC), Jerry Frank (UMCES CBL), Kristen Heyer (MD DNR), Kelly Krock (EPA), Lara Phillips (MDH), Ryan Lewis (DCLS), Laura Lockard (DNREC), Ian McMullen (DNREC), Sarah Meilinger (EPA), Melissa Stefun (MDE), Mike Mallonee (ICPRB), Doug Moyer (USGS), Peter Tango (USGS), Tyler Shenk (SRBC), Kevin Minga (ODU), Anessa Carter (ODU), Jaclyn Mantell (UMCES), Veronica Figueroa-Negron (UMCES) and Cindy Johnson (VA DEQ).

**Action Items:**

- Durga Ghosh and Cindy Johnson will work together to create a revised Scope and Purpose for DIWG.
- Kristen Heyer and Doug Moyer will come up with a few representatives to serve on a core team for the new nontidal fieldwork meetings.
- Allison Welch will create a poll to determine how the new nontidal fieldwork meeting strategy could also be applied to tidal networks and get further ideas and interest in forming the nontidal fieldwork meetings. The poll will be emailed to the group.
  - Upon receiving the poll, members should forward the poll to any nontidal and tidal field personnel who would be willing to lend their expertise.

**12:00 PM      Introductions, Announcements**

Cindy Johnson began by inviting each meeting participant to introduce themselves. Then, she opened the floor to general announcements, but no one shared.

**12:15 PM      Monitoring and Laboratory Analysis Updates – Cindy Johnson (VA DEQ)**

Cindy began with the monitoring and laboratory analysis updates.

Doug Moyer from USGS shared that they just released the new river input monitoring load and trend results. This covered 1985-2024. The Virginia portion of the nontidal network (NTN) is in a holding pattern now. In West Virginia, things have gone as planned. It's been a

wet year across the watershed, which is a good change from drought conditions. Everything from West Virginia is on target. More information on these trends can be found [here](#).

Kristen Heyer shared for Maryland monitoring. The mainstem monitoring is going pretty well. They are working out research vessel issues. They have been able to work with the Virginia Institute of Marine Science (VIMS) to use their research vessel and have been using that since March 2024. The University of Maryland Center for Environmental Science (UMCES) boat should be coming back online in the next few months. The Department of Natural Resources (DNR) is working on procuring their own research vessel to replace the one they had previously. Some of the dates had to be moved around to work with the VIMS schedule. The tributary sampling is on track. There aren't any big issues. For the NTN, they are doing well in terms of storm sampling. There are a few more they need to get this quarter. There is one site that has been unable to sample because there is a no contact advisory for the creek due to sewage problems from flooding in Western Maryland.

Lara Johnson shared on the Maryland labs. They have received two new SEAL instruments and have conducted trainings. They are in the process of optimizing methods before doing their comparison study and verification process. They have a new member, Ryan Carney. There may be some members leaving because of the voluntary separation that the state is offering, but for now they have a new member and new equipment!

Tracee Cain shared that Delaware monitoring is going well.

Ian McMullen shared that there are no Delaware lab updates.

Jay Armstrong shared on Virginia Labs. They are continuing operations as normal.

Jerry Frank shared that their lab is moving along well.

Cindy Johnson shared for the Department of Environmental Quality (DEQ) portion of nontidal monitoring that there are a couple of sites that they have not been able to reach. For Blue Ridge, the parkway was shut down for several months due to weather and they have one site they cannot reach on the Mattaponi due to construction. Besides that, they are pretty much on target. For the tidal monitoring, they have one region that is down on field staff, so they have missed a few runs. Besides that, they are on track for tidal.

Suzanne Doughten from Old Dominion University (ODU) has shared that they've been sampling their summer runs for July. They had some issues with their boat, so they used a different boat. Because of this, they did a profiler only cruise and then did nutrients on a second cruise. For the laboratory, she mentioned that if you are working with the SEAL, Heather Wright has attended their webinars and has found them useful. One thing she learned about the ammonia analysis is that the hypochlorite stock needs to be refrigerated and it's only good for a month after you open it, even though we've been getting them with holding times of 8 or 9 months. The phenol works best one day after it's made.

- Jay Armstrong from chat: Suzanne, yes on the hypochlorite and phenol. But we have not found an issue with stock open time on the hypochlorite.

Carl Friedrichs from VIMS shared that this year they are doing monthly dataflow for the York and Mobjack. They completed them through July and will continue into November. They have four DEQ/EPA funded shallow water continuous monitors (ConMons) in the water this year. Three are in the Rappahannock and one is in the James. They're building a mount for a new station in the Lower James, which should be deployed in the next few weeks. They also calculated the clarity acres for Virginia waters in 2024. They've been delivered to DEQ with new numbers for the York and Mobjack. It also includes the preliminary submerged aquatic vegetation (SAV) numbers for 2024, which will be updated when they are fully quality controlled (QCed) later this year.

There was an update from the chat from Durga: Unrelated but still very cool news from USGS- one of our wells that consistently reports on earthquakes across the globe captured the earthquake in Russia ([WA Bk 25 - USGS Water Data for the Nation](#))

Jamie Shallenberger from Susquehanna River Basin Committee (SRBC) shared an update for their NTN monitoring in the Susquehanna Basin. They monitor 27 stations and got 100% of the monthly sampling and 99% of the storms for the calendar year so far. He is not sure about the other dozen or so stations in the Susquehanna region that USGS collects from and didn't see any PA USGS representatives that could provide that update.

Doug Moyer from chat: [The Christiansburg Well: Sensing Worldwide Earthquakes | U.S. Geological Survey](#)

#### **12:35 PM      Blind Audits Update – Jerry Frank (CBL)**

Jerry Frank shared his Blind Audit update. He received data from everyone for the last two rounds. The report is in prep right now, expect the FY25 report to come out the first week of September. Also, he imagines that the next round of samples will come out in September.

#### **12:45 PM      Coordinated Split Sample Program – Mike Mallonee (ICPRB)**

Mike Mallonee shared his presentations on the mainstem split sample data and tributary split sample data.

#### **12:55 PM      Community and Participatory Science Update – Alex Fries (UMCES)**

Alex Fries shared that they have been working to add bacteria data as tier 3 data in the Chesapeake Monitoring Cooperative (CMC). That was with Becky Monahan and Liz Chudoba. The groups that have added this are Anacostia River Keeper, Blue Water Baltimore, Upper Potomac Riverkeeper, Anne Arundel Community College (AACC) and Arundel Rivers Federation. Those were field and lab audits. Arundel Rivers Federation used AACC for their labs. They all passed and did really well! The CMC is excited to include bacteria data. Becky added that they are especially excited knowing the groups have been asking for this for years. The Antietam-Conococheague Watershed Alliance did their first [report card](#) using their data which came out in June. The University of Maryland Center for

Environmental Science (UMCES) also released their [Chesapeake Bay and Watershed Report Card](https://ecoreportcard.org/report-cards/chesapeake-bay/) in June. Alex also included this link in the chat: <https://ecoreportcard.org/report-cards/chesapeake-bay/>

**1:10 PM USGS Standard Reference Samples – Allison Welch (CRC)**

Allison Welch presented the USGS Standard Reference Sample (SRS) results from Spring 2025 for the Chesapeake Bay watershed labs. At the end of the presentation, Allison highlights an issue she faced in the calculations of the z-values for the Total Nitrogen High Concentration Data and Nitrate High Concentration Data results. Her z-values did not match the z-values provided by USGS. Allison asked the group if they had any insight into what this issue might be.

Jay Armstrong: I was on the USGS SRS website today because I was checking that we are still using the 0-2 values as acceptance criteria, when most accreditation agencies are using 0-3. I didn't find what I was looking for, but when I was looking, I found a disclaimer about the calculation and display changes from the old SRS application to the new SRS application, referring to a change in the way they are rounding. If you want to investigate it further, you can go onto the Standard Reference Sample website, Overview, then Fact Sheet.

- Allison Welch: Thank you. I noticed that disclaimer too, but I think that it only referenced the most probable value (MPV). I tried to calculate a new MPV using the USGS z-value for the first lab, but the MPV that I got didn't give me the USGS z-values for the remaining labs. This led me to believe that it wasn't just a problem with the MPV and maybe also with the F-ps value, as well.

Alexandra Fries: Could it be human error?

- Allison Welch: That could be a possibility.

Suzanne Doughten: Could it be that they are using different significant figures for their calculations than they are reporting?

- Allison Welch: Yeah, that is definitely something I thought about. They provided the MPV and F-ps, so if they are rounding both of these differently, then it would result in a different answer. It is interesting to note that this only impacted the Total Nitrogen high concentration and Nitrate high concentration values.

Durga Ghosh: What I would recommend is that they have an email on their page where you can ask them the question. It probably is a trivial thing, either human error or a rounding thing. You never know so email the person. Thank you for doing this.

***Note from after meeting.***

*I, Allison Welch, reached out to the project contact for the USGS Standard Reference Sample Project and presented them with the issue, as I did during our DIWG meeting.*

*Sharon Pickersgill, from USGS, agreed that this was a difference in rounding/significant figures. Below are the raw numbers for the Total Nitrogen high concentration and Nitrate high concentration MPVs and F-ps values. Using these raw numbers, the z-values calculated would align with the z-values presented on the USGS SRS website.*

*Total Nitrogen: MPV = 1.605, F-ps = 0.133061527057079*

*Nitrate: MPV = 1.185, F-ps = 0.066716086*

*\*USGS uses bankers rounding, meaning they round down to even numbers before the 5.*

**1:20 PM      Break**

**1:30 PM      Discussion on Adding a Nontidal Field-Centric Portion to the Data Integrity Workgroup (DIWG) or Nontidal Network Workgroup (NTN) – Breck Sullivan (USGS), Durga Ghosh (EPA), and All**

Breck presented a few slides to introduce the issue that will be considered in this discussion. This issue is that there is a need for focused meetings on non-tidal network fieldwork, but the groups are unsure where these conversations should be housed. She introduced the Scientific, Technical Assessment and Reporting (STAR) Team structure, how NTN and DIWG fit into that, and what their purposes are. She mentions that this is part of the scope of the Data Integrity WG but might be housed better in the non-tidal network. She mentions that the Data Integrity WG Scope and Purpose includes “guidance on field and laboratory methods,” however, in the recent years, DIWG has mainly focused on laboratory discussions. The goal of this discussion is to find a place for the important nontidal fieldwork conversations. The question is should these conversations happen in DIWG or should they occur in the NTN and be removed from the DIWG Scope and Purpose.

### ***Discussion***

Durga Ghosh: From the fieldwork perspective, I’ve always felt that we struggle with field personnel attendance at our meetings. I understand why that might be. We usually schedule our meetings for random times and field personnel don’t have time to accommodate those times. It doesn’t matter which group they choose but I think it would be best to figure out how to have that representation. From the DIWG perspective, some of the downstream ramifications of what is discussed are what we would be interested in documenting. For our purposes, we want to make sure that any changes or subtle pieces of information are shared with the workgroup. The best way to figure this out would be to hear from the field crew.

Kristen Heyer: From our perspective, it doesn’t really matter which group we’re tagged with. I think there are probably issues either way. Part of the issue is that DIWG is tidal and nontidal, but we’ve discussed audits for both programs, which could be a good fit. For NTN, there’s a lot of discussions on the program as a whole and overarching conversations about which direction the network is going in. I don’t feel strongly about which group it belongs in, but I would like to see it happen. I think about how in the DIWG are talking

about lab equipment or other things, I don't have much input, but these conversations happen in the full group. I think it would be similar to that.

Doug Moyer: I agree. At the highest level, it doesn't matter to me where these conversations are housed. We had this discussion in the NTN a few weeks ago and sent out an email to collecting agencies asking them to have their field technicians/representatives present at the NTN meetings to have these conversations. That has been put in place previously. The challenge comes with aligning with the schedule of the field staff. Also, how frequently should we have those in the field and technical discussions? Then how often do we have those programmatic discussions that probably wouldn't be of great interest to the field staff? To keep it all related, it makes sense to me to have it in the NTN. That would also be a good place for the field audits. On the lab side, we see that there is great quality assurance (QA), but we have struggled with accountability on field audits for the NTN, which is an indicator that it is probably not a good fit for this team.

Durga Ghosh: That is a great point about the audits. That might be a way to increase participation from field personnel because there could be an in-person demonstration or assessment that would enhance participation. Since many of us wear both hats, we'd have no issues communicating information between both workgroups. In terms of moving forward, is there anything you need from us, Breck, to take to the Management Board (MB)? Do we need to modify our scopes or anything else?

- Breck Sullivan: Firstly, I just want to say thank you all for the input. I know there is a difference between what we put on a website and how our groups work together. I understand that there might not be a big difference for where it is, but as Durga mentioned, it is something I have to bring up to management in this restructuring. It's sounding like since information has already been passed out from the NTN, the focused meetings might be best there. Understanding that some people sit on both the DIWG and NTN, the information that is important to both groups should be shared at workgroup meetings from those participants. I don't think I need too much from you all at this moment since this potential restructure is going on right now. We don't need specific changes in the scopes right now, but it does help me in talking to management to help them identify what the groups are doing and those changes in scope. Right now, I don't need anything but in the next few months, I might need some updated language.
- Durga Ghosh: Cindy, is that something we could work on together? We could come up with some language for Breck to use.
- Cindy Johnson: Sure, that's fine with me.

Cindy Johnson: I do have some thoughts, but am fine with either. DIWG works on the Monitoring Methods Manual. Any method changes would have to be reported to Data Integrity WG, which is a potential problem. If the analytical folks are involved in

conversations when problems come up, they know how it will affect their analysis. I think that is a bonus to having the meetings within the DIWG, or at least having the information relayed to the group. This used to be a full day meeting where we had field and analytical representation. Nontidal came in and it became important that the NTN have an offshoot so they could discuss the monitoring methods with USGS. From Virginia's perspective, we're not going to have field folks attend these meetings. They are in the field 10-12 hours a day, Monday-Thursday with Fridays off. There is no way to fit the meeting into their schedules besides the way we are currently doing it. We are so thankful to Doug and his group. We get a full-day of training and interaction with USGS. We've had the audits with Doug. He has been very helpful in making sure we don't move away from what USGS does in the field. I wanted to make those points to consider. I am more than happy to help move things over to the NTN, but I wanted to share those. I don't know if Maryland or Delaware would be able to attend, but if you wanted our folks, that's probably not going to happen.

- Durga Ghosh: I think that will be true for most other states and with our travel restrictions, I think we may be limited in that too. From a NTN meeting I attended, we may need to slice and dice and take things as we go along regional boundaries. We may never be able to achieve a single event where we can get all of the folks in, which might just be the reality of the situation we're in. We could evolve and firm up a schedule.

Kristen Heyer: We used to do this over the phone, maybe if we had a brief monthly or bi-monthly call where those who are available can hop on with any problems or concerns they are having. Maybe, Doug or I could be available to answer any questions. It could be a set time where those with problems could present them and other people who are available could hop on and help with any issues. Sometimes there are issues that come up when sampling, it could be helpful to talk to other teams for guidance. I would recommend something like that with the understanding that not everyone will be able to attend every time because of field schedules. If it doesn't work out, we can say that we tried it.

- Peter Tango from chat: NTN "Office hour" (Or half hour, or similar)
- Durga Ghosh: I love that idea and agree with what Peter said about the office hour.
- Doug Moyer from chat: I agree, Peter, and a whose Who for NTN Field Connections
- Peter Tango from chat: We can start with that offer maybe attached at the end/start of each bimonthly NTN meeting.

Durga Ghosh: Maybe we could come up with a list of folks that could serve on that team, with the technical expertise needed for fieldwork. It would be a huge ask if we only had two people who could do that consistently. Kristen, do you think you could come up with a few names so we could make this group and take turns being available for those calls?

- Kristen Heyer: Yeah. I think so. I would try to be there whenever I can, especially if it is brief. I'm not in the field as much as my colleagues, but I am some and I do a fair

number of meetings while in the field. I think there would be some people at our office who could help out with that.

- Doug Moyer: I would be willing to join in and some of my staff would too. Some of the things we're doing between Virginia and West Virginia could be helpful. Alyssa manages about 9 field technicians and they are responsible for the NTN sampling. We have been sharing our staff with West Virginia field offices where some of our staff will spend the week helping their staff collect NTN samples. It helps in sharing strategies and efficiencies. I don't know how much that would occur across agencies, but it seems the goal is to connect in different ways. This also relates to the audit question. Maybe USGS staff could pair up with the state agencies and vice versa. It should go both ways. You can learn a lot from going out with someone to collect a sample. This wouldn't be an audit but it would help create consistency, while also getting technicians talking and challenges can be brought forth. It doesn't have to be a scheduled item on an agenda, but we need to make sure the technician teams across the NTN know that others are doing the same thing as them and know who they can contact with any issues.
- Durga Ghosh: Yeah. That sounds great.

Durga Ghosh: This issue is pertinent because the NTN using USGS methods and the expertise lies with USGS personnel. Would this also be helpful for tidal networks? Should we also have a parallel with that? I am hoping Allison can come up with a poll to tap this thought process for tidal networks too. That could also include figuring out who is interested and willing to serve on that team.

- Allison Welch: Yes. I could definitely do that. We can talk about the specifics over email.

Breck Sullivan: This was helpful to better understand and show the interconnectedness of our workgroups. Highlighting what Cindy said about how the method development and documenting is really important within data integrity, so it is important that if things come up around that in NTN, we find a way to communicate that. The discussion might best be housed in this small committee or the first hour of NTN meetings. It's helpful for me to know where this is happening to inform management and answer questions.

Cindy Johnson: Thank you, everyone. Can we forward that survey to other people? It would be good to send it to our field folks in though I know our field folks wouldn't be able to attend meetings regularly. Some of our long-term folks might be able to make some time and be willing to offer their expertise, especially in the tidal realm. It'd be great to share that with folks.



- Allison Welch: We can talk about the specifics of the survey and then send it to whoever you'd like. If anyone else has ideas on who they'd like to send the survey to, they can email those to me, as well.

Cindy Johnson: Our next meeting will be October/November.

Mike Mallonee: I have a quick announcement. After 17 years, this will be my last AMQAW/DIWG meeting because I will be retiring around September 30<sup>th</sup>.

- The group shared many congratulatory messages and well wishes for Mike!

**3:00 PM      Adjourn**