Chesapeake Bay Program

Watershed Technical Workgroup (WTWG)

Meeting Minutes

Thursday, August 3rd, 2023
10:00 AM to 12:00 PM
Meeting Materials

Summary of Actions and Decisions

Action: If WTWG members have feedback or questions on the 2023 Progress Schedule they should reach out to Ruth Cassilly, UMD (rcassilly@chesapeakebay.net) and CC Auston Smith, EPA (smith.auston@epa.gov).
Action: Olivia will add additional rows of BMPs to the BMP Reporting Transparency spreadsheet and it will be posted to the calendar page for review.
Decision: The WTWG approved the June and July Meeting Minutes. Please email Cassie Davis, NYS DEC (Cassandra.davis@dec.ny.gov) with any questions or comments.
Decision: The WTWG approved the 2023 Progress BMP NEIEN Appendix pending the addition of the dairy counts requested by MDA.

Meeting Minutes

10:00 **Introductions and Announcements** – Cassie Davis, NYSDEC (15 min).

- **Decision requested:** Approval of June/July Meeting Minutes.

Decision: The WTWG approved the June and July Meeting Minutes.

- 2023 Progress Schedule – Auston Smith, EPA
    - Auston reviewed the 2023 progress schedule, including the timeline for review.
    - Ruth clarified that she and Auston would be working on reviews jointly this year, and that she would be the primary contact. If you have pre-September 1st questions on the QAPPs please reach out to Ruth Cassilly, UMD (rcassilly@chesapeakebay.net) and CC Auston Smith, EPA (smith.auston@epa.gov).
    - The 2023 Progress Schedule spreadsheet has been posted to the calendar page.
- Other announcements?
    - August 1st – States can begin submitting Construction, Forest Harvesting and CAFO Split data for 2023 Progress – submit data to Olivia Devereux (olivia@devereuxconsulting.com) and Jessica Rigelman (jrigelman@j7llc.com).

10:15 **CMAQ Presentation** – Gary Shenk, USGS (15 min)

Gary gave an overview of CMAQ – the Community Multiscale Air Quality Monitoring System. This included a discussion of the new ISAM (Integrated Source Apportionment Method) in CMAQ and presentation of hypothetical outputs.

Discussion:

Kevin DuBois (in chat): Long Island (NY) is not in the Bay Watershed.

Gary Shenk: Much of DE, VA, MD, PA are also not in the model, but we wanted to give jurisdictions credit if they made statewide emissions changes. NY emissions changes in Long Island do have a change in deposition to the Bay and so we wanted to be able to give them credit. This region is really kind of funny, its Long Island, NY environs and Philadelphia, but the sources are a bit different and its just really for processing time that we couldn't disaggregate those.

Chris Brosch (in chat): What is the difference between "manure (A)" and "poultry (P)"?

Gary Shenk: The difference is that P is poultry and A is all other manures. This is because some users were interested in poultry specifically when we were setting this up and so that got in there as a separation.

Scott Heidel (in chat): What are the loads associated with these percentages?

Gary Shenk: The total is one third of the total load. So about 80 million lbs of atmospherically derived load is directly deposited onto the Bay, and if that's 10% of what's emitted the total load is 800 million lbs emitted.

Chris Brosch: One slide attributed load to DE's eastern shore. I'm not aware of any parts of DE that aren't on the Eastern Shore, so I'm hoping that's a typo. Was DE north of C&D canal not considered part of Eastern Shore?

Gary Shenk: I think that was just saying the state basin, I.E NY has Susquehanna and DE Eastern Shore is the only one for DE. It's kind of like that Long Island example, if we're talking about emissions from DE as a whole, then we want to talk about all of DE, but the loads coming to the Bay only come from the eastern shore basin of the Chesapeake.

Chris Brosch: In the slides that attribute load, is that the land from which the deposition has washed away, or from which the deposition originated. I.E if wind is W->E is an MD poultry farm creating load in DE?

Gary Shenk: It does

Chris Brosch: So, a DE poultry farm would create a load in the Atlantic, following the same logic.

Gary Shenk: It will, but it also wouldn't. This is all deposition that comes from Delmarva. Some of it makes it all the way out to WV since the wind doesn't always blow W->E. But we have Delmarva as one unit and it still took a really long time to run this model.

Gregorio Sandi (in chat): What about loads from Ohio and other Midwest states, with prevailing weather patterns, don't we receive inputs from them?

Kevin DuBois (in chat): Thanks Gary, duh, it's the airshed not the watershed – forgot to adjust my perspective.

10:30 **2023 NEIEN Appendix Approval** – Olivia Devereux, Devereux Consulting, Jessica Rigelman, J7 Consulting (5 min)

Olivia and Jess presented the 2023 NEIEN Appendix for approval by the WTWG.

Decision requested: WTWG members will be asked to approve the 2023 NEIEN Appendix for 2023 Progress reporting.

Discussion:

Gregorio Sandi: We noticed one change for animal waste management systems. The unit's name should be 'count' not 'AU' and then the measure name should be 'AU'.

Jessica Rigelman: The unit name will be 'count' because that's a NEIEN thing, but the measurement name is not a change that can be made. I can address it in the comments.

Elizabeth Hoffman: The unit name can't be 'AU' to match the measure name?

Olivia Devereux: The reason is NRCS has the data tracked as a 'count' and so when states provide data from NRCS, and I know MD doesn't, but other states do, they need to be able to submit it in a way that it's tracked. You can also submit it, I believe, in a row where you can submit as 'AU' but leaves the option open for other states to submit as 'count'.

Elizabeth Hoffman: So, there's ~10 options for waste storage facility. For the ones where the measurement name is 'AU' rather than 'count' or 'structure' I was wondering if those couldn't align. If you're reporting in 'count', fine, unit name can stay 'count' but if you're reporting as measurement name 'dairy AU' the unit name in the NEIEN appendix still says 'count' and if it could be 'AU'. It's not major but sometimes when you're looking at the summary reports it says 'count' and I wonder if people are looking at it as an animal count. Just something that can cause pause.

Jessica Rigelman: I don't want to change what's already there in case people are already submitting it that way. We could possibly create a separate record that said, 'dairy AU' and unit name of 'AU' and those could be separate records and then the 'dairy AU' unit name 'count' would also stay and those should both work. That would just be adding a duplicate row for everything under waste storage facility, I believe is what you mentioned. Where there's an 'AU' at the end of the measurement name and I would add a unit name of 'AU' but I need to double check that.

Elizabeth Hoffman: When NRCS is providing those in 'count' are they providing structure or the animal unit or both?

Olivia Devereux: They are only providing the number of waste management systems so it's the structure.

Elizabeth Hoffman: So they would never use the options that say 'dairy AU' right?

Olivia Devereux: They do have animal type where they have the number of animals or the number of animal units.

Jessica Rigelman: I think we can accommodate that one, but I don't want to say 100% just yet. We can add those units in there so you can use the unit name of 'AU' and others who are using 'count' can continue using 'count'. I don't want to change records because it will invalidate anybody else who used it.

Bill Keeling: When we were talking about the Oyster BMPs recently, I asked for a measure of millions of oysters harvested and I'm not seeing it. For diploid and triploid Oysters?

Jessica Rigelman: I haven't posted the new appendix for this year because I'm waiting on approval to generate the new appendix file. It is in my database so when I press go it will be on

there. I believe that is the disconnect but I will double check that when I get approval. It definitely has been added.
Scott Heidel (in chat): Can you please add a column with BMP efficiency values?
Jessica Rigelman: Not to the NEIEN appendix. The NEIEN appendix is NEIEN and BMP efficiency values are part of CAST. They are two different systems, NEIEN just prepares BMP data for CAST. You can download that from the BMP source data file from CAST and match that up to the CAST BMP short name to get the efficiency values for those BMPs.
Scott Heidel (in chat): Can you please share the file you described?
Olivia Devereux (in chat): Scott, CAST is down for maintenance, but it is on the home page under "Source Data".

Decision: The WTWG approved the BMP appendix pending the addition of the dairy counts requested by MDA.

10:35 **BMP Reporting Transparency** – Olivia Devereux, Devereux Consulting (20 min).

Olivia presented on updates to BMP reporting transparency initiated at the request of the WQGIT, including a proposed streamlined progress report format and shared an example spreadsheet with the new format, to be used for the 2024 progress submitted data.

Discussion:
Cassie Davis: So the successes would also be listed in this, it wouldn't just be the errors?
Olivia Devereux: The last one in here has nothing in the green portion, and that is a success.
Cassie Davis: I've used the BMP input data to see how NY was reporting, I.E what scale it was reporting its BMPs at whether county or lat long. Would I be able to find that information using this report still?
Olivia Devereux: Yeah, so you can see this cover crop was reported as a FIPS code. These two were all FIPS code along with this last one, this would be the CAST geography name. So if it were LRSeg, which I never recommend people reporting at that scale, if it were it would show up here.
Bill Keeling: Is there a reason the inspection status isn't included?
Olivia Devereux: I could add that. I know that sometimes you report that it fails. I'll add that and add a note.
James Martin (in chat): What would be the visibility of this report on CAST?
Olivia Devereux: I did put that in the PowerPoint, that it would be here on this 'Annual Progress Report Submitted Data' page like it is now. For public visibility people could through here and click on it and get a copy of the one that was used for the final progress submission. For all of the interim data submissions, those would only be available to people who have access to the NEIEN portal because it's not a final product.
Kevin DuBois: I wanted to comment that because our folks have a methodology using the way CAST was previously set up, that's just something we'll want to coordinate with them to see how this new format might affect their process. This is just for your information, not a criticism

or anything but that's just something we'll want to take back to them and make sure that that transition can happen smoothly.
Elizabeth Hoffman (in chat): What is the difference between expiration date and retirement date? In that, do people provide expiration dates or are they generated after credit duration?
Olivia Devereux: I think they will find this easier, but we can make sure that any scripts they have written should be able to easily be updated to use this report. We'll continue to work closely with them on this.
Bill Keeling: This is a significant departure; we've got a bunch of R scripts set up to deal with the data the way it was previously structured. I'm not so certain that for us this is an improvement.
Olivia Devereux: And yet it was VA who asked for better transparency. You all are different agencies, but.
Bill Keeling: As the agency responsible for doing the tracking and reporting, we have set up automated processes to run things through R, and this will require significant effort on our part to change.
Olivia Devereux: Well let's talk about if we want to make this change or not. This was made in response to the WQGIT's request that we simplify progress data review, so this was moving in that direction.
Bill Keeling: I was just with DoD in that, you know, this could have an effect on us.
Olivia Devereux: Well, we want it to be a positive effect so if it's not going to be positive then we don't need to move forward. That's why we're checking it out with you.
Bill Keeling: Oh, I thought this was presented as what was going to happen.
Olivia Devereux: No, this is the idea for how we can meet the WQGIT, led by James Martin's request that we simplify the data as we provide it back to you all for review and increase transparency in annual progress data submission and review. This is the idea we have, if it's not meeting the need and it's not helpful then we don't need to move forward, but this is what we saw as a path forward when we met internally to try and figure out what the solutions are.
James Martin: The original vision here was, really, a world without NEIEN. A way that we could still report data, potentially using the same XML format that we currently use, avoiding any of those unintended impacts on data reporters. You'd report the data the same way, but it would go straight to CAST not through NEIEN. Then CAST would have all the errors and could include in a single submitted vs credited report a summary of what was submitted, the CAST errors, expiration credit duration issues, NEIEN errors, then cut off or back out and excess. The submitted vs credited report that you currently see is not actually the data that was submitted, it's the data that was submitted that didn't have either a NEIEN or CAST error. All those things that are still in submitted vs credited but starting from what was actually submitted. I think this is a good effort to try and simplify the NEIEN report for most people's use. I wonder if a solution to some of the concerns like Bill's could be that the final report posted would be in this format, which is far easier for people to use and understand, and the interim reports for all those progress scenarios that the WTWG people probably deal with could stay in the old format. Just a potential idea to resolve some of those concerns.
Alicia Ritzenthaler (in chat): I can't think of conflicts DOEE would have with these simplified reports. I like the idea of being able to find any/all of our submitted BMPs on a single tab. If we

move forward, perhaps there can be a year of overlap when both the old and new reports are provided to allow extra time for scripts to be developed/tested/implemented for those that need it?

Bill Keeling: I would also need to see it with more than just a handful of records. If I understand it correctly, all 300,000 records we submit would be on this one tab.

Olivia Devereux: Correct. I appreciate Alicia's comments and James' recommended approach for how to implement a transition and we can definitely look at how we do this. The idea originally was to get rid of NEIEN because it is on old technology. That is something that EPA has said they are not ready to support so that has not moved forward. We would still use NEIEN and not do what I had once thought we might do which is just allow people to upload the same XML schema directly to CAST or to submit it in an Excel spreadsheet to CAST, one or the other or both. I don't think that EPA is open to expending the resources to move away from NEIEN, but this was an idea to simplify the fact that it does go through multiple data systems to get into CAST. I understand what James is saying, that you want to download the submitted vs credited report and see all the BMPs even the one's that failed. If we think about it, and I'm sure James shops on Amazon from time to time; if you buy toilet paper on Amazon and you put that you want the quantity of 'Fred' you're not going to get any toilet paper in your basket because there is no such quantity as 'Fred' for toilet paper. So, it won't show up in your basket and you won't get any toilet paper. That's why things don't get from NEIEN to CAST because there was no way to process that record, just like it doesn't get from where you clicked on something and typed in a quantity that was an inappropriate value. It doesn't make it in your cart. I don't know if we have a way around that problem, but we certainly don't want to make this a problem for people like Bill who rely heavily on those reports.

Alicia Ritzenthaler (in chat): Thanks for that comment – It's good context that NEIEN will likely remain part of the process for the foreseeable future instead of the earlier proposed idea to get rid of NEIEN.

James Martin (in chat): @Alicia – I do not think we should give up on a world without NEIEN as we move into Phase 7.

Alana Hartman (in chat): We use maintenance dates in WV to keep BMPs in the system after expiration if you know it's still there. I agree with Alicia's comment.

Olivia Devereux (in chat): I believe people use maintenance because you don't have to enter pass fail.

Alicia Ritzenthaler (in chat): DC uses the maintenance date. For us it's helpful when we're trying to verify BMPs that have a failed inspection date. I think we've resolved it (hopefully!) but sometimes in the past we'd noticed that a corrective maintenance activity would be recorded but that we'd still need to update the inspection date to 'restore' credit for that BMP.

Action: Olivia will add additional rows of BMPs to the BMP Reporting Transparency spreadsheet and it will be posted to the calendar page for review.

10:55 **CESR Report Overview** – Kurt Stephenson, Virginia Tech (60 min)

Kurt provided a high-level summary of the recent CESR (Comprehensive Evaluation of System Response) report and its implications.

Discussion:

James Martin (in chat): What treatment level was used for Wastewater to determine what is controllable?

Kurt Stephenson: Maybe that's not the right title. Those were the N sources, everything but background. It doesn't imply that that red wastewater is all controllable. That is the total WW load coming from WWTPs. I understand, and we understand, that getting to 0 mg/L of N is technically unachievable unless you do something as dramatic as the SWIFT program, so that red WW bar is not all technically controllable in some ways.

James Martin: That's not how the split between WW and nonpoint sources looks like in our modeled output. I don't know what data you were using to determining that, whether it was SPARROW or CAST.

Kurt Stephenson: That was CAST but we took out the background loads, the natural sources.

Olivia Devereux: Which year's wastewater where you using in CAST?

Kurt Stephenson: 2021.

James Martin: I haven't looked at numbers Bay wide, but in VA that's not what the distribution of loads looks like.

Kurt Stephenson: Very aggregate load, excellent point

Olivia Devereux (in chat): The way we usually model the WW loads is to take current loads, like the 2021 progress, and subtract the 1985 or no action WW load. On WW, there is an "E3" (everyone doing everything, everywhere) scenario but we now know that we can go well below the loads in it.

Bill Keeling (in chat): E3 is a theoretical maximum level of implementation not the lowest load achievable. It is a theoretical max that is known to be unachievable.

Olivia Devereux (in chat): To Bill's point, any modeled load is an estimate. Delisting ultimately comes from monitoring data.

Bill Keeling (in chat): Especially when CAST is changed and loads go up or reductions go down and it has nothing to do with BMPs. And what defines controllable loads for NPS? What I am saying is the total reductions made by NPS sources depends on the version of CAST. If you are going to characterize things in absolute lbs.

Kurt Stephenson: The way we define controllable loads is anything other than the natural (background) sources in CAST. Basically, anything coming from anthropocentric sources.

Bill Keeling: But we can apply BMPs to some of those natural sources, so they are controllable too?

Kurt Stephenson: Maybe I need to come up with a better word.

Sarah Lane (in chat): Is sandboxing similar to adaptive management?

Kurt Stephenson: Sandboxing is a tool for adaptive management where you can experiment with different policies and programs while still moving forward. It also involves building in a system of assessing and evaluating the effectiveness. You set up a structure and say how do I know whether it's working and how do I evaluate whether it's working.

Alana Hartman (in chat): Just “sandboxing” here: bring back the beavers (I read *Eager* and I’ve been converted).

Kevin DuBois: I will make some formal comments, I haven’t read the whole in-depth CESR report, but regarding the comments on incentives, that creates – and I’m going to put on my professional wetland scientist hat for a second – a little bit of heartburn for me, because when you start throwing incentives, especially financial incentives, to waterfront landowners, it tends to negate their role and responsibility for that land use. I’m bringing decades worth of baggage, having interacted with lots of waterfront landowners and multiple states. They will tell you all the time, if that’s not what I want to do, i.e., install a living shoreline, then you have to pay me to do it. When actually, they have a responsibility under the public trust doctrine to be good stewards of that land. Taking their personal responsibility out of the equation by just throwing a bunch of money at them to support Chesapeake Bay goals and objectives rubs me the wrong way. Some incentives yes, but they need to have skin in the game and understand and accept their level of responsibility as waterfront landowners and I don’t want to belittle that by throwing heaps of cash at them just to achieve Chesapeake Bay goals.

Kurt Stephenson: Philosophically, I do not disagree with anything that you said. When we were looking at this, we were doing an if-then. If you accept the premise that this is going to be a voluntary program, that if you offer somebody fifty cents on the dollar to do something they don’t want to do, they’re not going to do it. We do bring up in the report that there are inherent limits to these voluntary programs, and I don’t care what type of incentive programs you have in terms of getting people to do something. There are possibilities and opportunities to ask people to do more. Voluntary programs, whether outcomes based, and incentive payments or cost share based you might have to ask people to do more in certain situations. That’s the world we live in and if you accept the premise, it’s what people should do and what people will do, that’s the tradeoff. We didn’t say what the program should do or what the states should do, we’re saying that these are the tradeoffs you have, and you can only push so far with a voluntary program.

Kevin DuBois: Let me give you a specific example. In VA, the law says two things – 1) if you’re in a Chesapeake Bay Preservation Act area, if you don’t have a forested buffer, if one doesn’t exist, you will create recreate it. That’s what the law says, the problem is that it’s just not enforced. On the same token, it says that if you have an eroding shoreline and you want to address that erosion, you have to install a living shoreline. But again, that’s not uniformly enforced. So, the problem is not the law, it’s the enforcement of the law. That’s why a lot of times, we wring our hands about the goals and outcomes, and who’s responsible for achieving them. In my view, speaking as a professional wetland scientist, that sits squarely at the EC and governors’ level to make sure that the laws are enforced. If we did that and restored all the riparian buffers along the shoreline in VA, we’d probably exceed our goals but that’s not happening and that all has to do with enforcement of existing law. I can’t speak to other states, but again, not enforcing the law and then incentivizing sends the wrong message that people with the opportunity to own land in the public trust have no responsibility to live up to that benefit.

Elizabeth Hoffman (in chat): Once concern around selling the idea of offering money based on an outcome to the ag community is that they have seen the "value" of their practices fluctuate

with every model update or based on tangential data sets and how those are modeled, beyond their control. Just a small note, a little uncertainty there.
Samuel Canfield (in chat): Sandboxing: invest CBP funding into enforcing the VA riparian buffers law.
Kurt Stephenson: Right, we have no disagreement. We were laying out a series of options, and in certain circumstances if you're dealing with, say, ag land managers, there's not going to be just one policy. You'll have to pull on a variety of different policies because it's a complex problem. What you just said is in the report as well – if you've got stuff on the books, you're going to have to have effective regulatory programs. Your example is spot on – an unenforced program that could do a lot of good. One of the points we try to make in these tradeoff discussions is that people are going to have to confront those. Sometimes it's not going to be what people want, there's a cost and a benefit. I don't think anything in the CESR report is counter to what you're saying, we listed a bunch of options and one of those was regulatory.
Leon Tillman (in chat): Kurt, please speak to the reductions with agriculture and urban separate. Grouping these skews, the progress made by agriculture and the increases over time seem from urban.
Leon Tillman: When looking at the sources, in terms of controllable N loads, is urban equal to developed land that is used in the Bay Progress reporting?
Kurt Stephenson: It's both.
Leon Tillman: I would request or ask, and I know you may not be able to do much of it in detail today, but in future presentations to speak to the loads as they pertain to ag and urban separately. Because in grouping those it does skew that picture of the progress that's been made relative to the different land uses.
Kurt Stephenson: Ok. The reason we put that in there is because if you're looking at it, there are some commonalities, the nonpoint source challenge has similarities whether you're talking ag or urban. In the sense that you're talking about the sources of diffuse, tens of thousands of people making independent decisions.
Leon Tillman: I understand, with the consistency between what's being gleaned from the report as well as what is on Chesapeake Progress and looking at both pulling from CAST. To be forthright, developed land has had increases historically in N and P and when you group those together [with ag] folks are just looking at one report and it erases what progress has been made and doesn't speak to the progress that's been made in the ag sector.
Kurt Stephenson: Right, and then you get to the difficulty of parsing out – urban loads are increasing, ag loads are decreasing – how much of that is from land conversion, etc. I hear what you're saying.
James Martin (in chat): On the DO response gap slide, what do you conclude from the observed response? Seems like attainment is not well correlated with reduced loads.
James Martin: I understand and appreciate your conclusions about the gap between what the model predicts and what is observed. Aren't there some conclusions we can draw from what is observed that raise questions about our broader approach to this effort? Attainment does not seem to be well correlated with reductions in load to the extent that we've seen them.

Kurt Stephenson: Correct, and that's why in the report we're concluding that given the fact that we've got a working watershed, given the fact that climate's changing, that we're dealing with all these fundamentally different systems, it raises questions particularly within the deep water about whether the goals we've set for ourselves are achievable or not. If you stack on the fact that you've got potential response gaps in the watershed as well, it looks like a heavy lift.
James Martin: It looks like an absolute impossibility. For context, the TMDL for N is set at 200, there's some points that aren't far off from 200 and they are nowhere near 100% attainment.
Kurt Stephenson: That's why we had 10 year moving averages, but you know, there was discussion about how strongly to phrase that. I tend to express it in a similar type of way to you.
James Martin: It almost makes me ask the question, are reductions in N the right thing to be chasing if we want to see a DO response?
Kurt Stephenson: This is where we get into the living resource part. We have lots of examples in the report, of N reductions, i.e., in some embayments where we had a dominant point source that made a single upgrade, and you do see within just a few years an immediate water quality response. An improvement in terms of water clarity, SAV, as well as DO. Those are in a shallow water, confined area, but you can see a positive response in open water as well. The response might differ across habitats. The positive message in this sort of challenging graphic, is that the places where you might be able to move the needle in terms of DO and water clarity are also the places where you'll find the majority of your living resources. The shallow waters, open waters, where our iconic species and forage species are. That was the optimistic outcome of this. That's one of our suggestions, maybe in the TMDL and going forward in terms of reductions, we prioritize the reductions where we can get the largest living resource benefit, which is a question we haven't asked before. Everything has been about trying to achieve the criteria, but they are just a means to the end, which is living resources. Maybe we need to take a step back and say how do we prioritize our efforts to get a bigger bang for our buck in terms of living resources and maybe that's in the shallow and open waters.
James Martin: Yes, and you know, the Bay's a big place. There's a lot of places where we can do a lot of good and recognize that that may be as good as we can do, is to focus on those areas.
Kurt Stephenson: Also, in terms of showing people the benefits – if your primary measure of success is the deep channel, people can get discouraged. But if you're targeting areas and saying look these are biologically very important and we can make a difference, and if we do it and can see a difference it's a benefit to the program. We're improving living resources and showing the public we have a positive impact.
Dave Montali: I just want everyone to keep in mind that the modeling workgroup is a little bit concerned about this graphic, and we're going to be analyzing and making sure we're comparing apples to apples. I'm not saying anything about the broader conclusions or recommendations, but I don't think, we haven't said yet and we will in subsequent quarterlies what we think about response gaps that are portrayed here in the estuary. Gary's already done an assessment of response gaps in the watershed and made multiple presentations saying we don't really think we have a N response gap in the watershed although we do believe we have a P response gap in the watershed. As far as the estuary and this graphic in particular, Richard and others are making sure we're comparing apples to apples.

Kurt Stephenson: I appreciate you bringing that up, and that's something that should be on the next slide in the sense of the data aren't perfectly aligned and that's another potential explanation of why these response gaps exist. I.E they're not measuring exactly the same thing. On me for not noting that caveat.

Next Meeting: Thursday, September 7th, 2023, from 10:00 AM – 12:00 PM.

Participants

Alana Hartman, WVDEP
Alicia Ritzenthaler, DOEE
Arianna Johns, VA DEQ
Ashley Kelly, DoD
Auston Smith, EPA
Bill Keeling, VA DEQ
Cassie Davis, NYSDEC
Chris Brosch, DDA
Clint Gill, DDA
Dave Montali, Tetra Tech
Elizabeth Hoffman, MDA
Emily Dekar, USC
Eugenia Hart, Tetra Tech
Gary Shenk, USGS
Gregorio Sandi, MDE
Helen Golimowski, Devereux Consulting
Holly Walker, DE DNREC
Jackie Pickford, CRC
James Martin, VA DCR
Jeff Sweeney, EPA
Jeremy Hanson, CRC
Jessica Rigelman, J7
Karl Blankenship, Bay Journal
Kevin DuBois, DoD
Kevin McLean, VA DEQ
Kimberly Dagen, SRBC for PA DEP
Kurt Stephenson, Virginia Tech
Leon Tillman, USDA
Lew Linker, EPA
Lori Brown, DE DNREC
Matthew Kofroth, LCCD
Nicole Christ, MDE
Olivia Devereux, Devereux Consulting
Pat Thompson
Ruth Cassilly, UMD
Samuel Canfield, WVDEP
Sarah Lane, MD DNR
Scott Heidel, PA DEP
Sushanth Gupta, CRC
Tyler Trostle, PA DEP

Acronym List

[DC] DOEE: DC Department of Energy and Environment
AgWG: Agriculture Workgroup
BMP: Best Management Practice
CAFO: Concentrated Animal Feeding Operation
CAST: Chesapeake Assessment Scenario Tool (user interface for the CBP Watershed Model)
CBP: Chesapeake Bay Program
CESR: Comprehensive Evaluation of Systemic Response report
CRC: Chesapeake Research Consortium
DDA: Delaware Department of Agriculture
EPA: [U.S.] Environmental Protection Agency
FIPS: Federal Information Processing Standards
HRPDC: Hampden Roads Planning District Commission
LCCD: Lancaster County Conservation District
MDA: Maryland Department of Agriculture
MWCOG: Metropolitan Washington Council of Governments
NEIEN: National Environmental Information Exchange Network
[USDA] NRCS: Natural Resource Conservation Service
NVRC: Northern Virginia Regional Commission
NYS DEC: New York State Department of Environmental Conservation

QAPP: Quality Assurance Project Plan
TA: Technical Appendix
TMDL: Total Maximum Daily Load
UMD: University of Maryland
USC: Upper Susquehanna Coalition
WQGIT: Water Quality Goal Implementation Team
WTWG: Watershed Technical Workgroup
WW: Wastewater
WWTP: Wastewater Treatment Plant