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Agriculture Workgroup (AgWG)
Meeting Minutes
March 20th, 2025
10:00 AM – 12:15 PM
Meeting Materials

Summary of Actions and Decisions

Decision: The AgWG approved the minutes from the February AgWG meeting.

Action: AgWG members should review the linked methodology report, outlining the standard that the partnership is asked to meet for remote sensing-based verification of tillage practices. Members are asked to consider if they are in support of the standards that are being proposed, in preparation for a vote next month.

Action: Caroline Kleis, CRC, will post all PA DEP/ Resolve Hydro Remote Sensing Project materials to the April calendar page as soon as possible, and no later than COB April 3rd, in advance of the April AgWG meeting vote.

Intro & Announcements

10:00 **Welcome, roll call, review meeting minutes – 5 minutes**
Kathy Brasier, AgWG Chair

- Roll call of the governance body
- Roll call of the meeting participants - *Please enter name and affiliation under "Participants" or in "Chat" box*
- Welcome: Christi Hicks, interim Acting Chesapeake Bay Coordinator, NRCS
- **Decision:** The AgWG approved the minutes from the February AgWG meeting.

Innovation/Data & Modeling

10:05 **PA DEP Remote Sensing BMP Verification Pilot Project: Methodology Report Presentation - 55 minutes (presentation and discussion)**
Tom Howard, Resolve Hydro; Ashley Hullinger & Scott Heidel, PA DEP

Tom Howard, Resolve Hydro, presented the PA DEP Draft Methodology Guidance for Remote Sensing Verification of Conservation Tillage BMPs. This document would serve as a BMP-specific supplement to the CBP's broader remote sensing guidance document. There were no decisions associated with this item for the March meeting, but we discussed the next steps in bringing this guidance forward for a vote. The group was encouraged to ask questions and provide feedback.

Discussion:
Dave Graybill: The reflectivity of the surface, is that the basis for the determination from the satellite's point of view?
Tom Howard: Yes. From satellite measurements, you are able to get reflectance from the surface at discrete wavelengths.

Dave Graybill: How would temperature of that soil, moisture of that soil, i.e. the residue and type of residue, change reflectivity? Can you explain that?
Tom Howard: That's a fantastic question. I think Dean Hively and Brian might be on, and they have some papers kind of discussing those changes. There are different methods that can be used to correct for those changes. Some of them will cause the signal related to conservation tillage to decay. Some of them will cause it to grow stronger, and both of those perturbations are not wanted. You want your clear of day most representative sample. In this methodology, I'll explain that I am trying to propose a model agnostic approach where instead of prescribing how a model should go about addressing those changes, we base the acceptance or rejection of a particular model result in a particular location based on the verification accuracy. If we go out in the field and we say this model which uses all these great methods to correct has poor performance, we're not going to accept those results, because the performance doesn't reach the criteria. Alternatively, a more simple model could meet that performance criteria even though it doesn't explicitly adjust for those points.
Jim Riddell: I appreciate your work on this, and I'd be interested in your comments and opinions on where this type of process might be used with other BMPs and then maybe the limits, strengths, or general comments. You've done some good work, and I'd be very interested in understanding or knowing what you believe or think where it might fit in a broader perspective.
Tom Howard: Thanks for that question and those comments. I think that broadly the satellite technology, the processing technology, are advancing at a rate that make remote sensing very likely to be usable for multiple years of BMP verification. My recommendation is that the methodology for each type of BMP verification be individually considered. In prior Bay Program guidance, it generally considered multiple types of verification or multiple types of BMPs for verification. This guidance is specific to Chesapeake Bay Program reporting of conservation tillage. I think cover crops are an excellent example of a BMP that could be measured using remote sensing. I think Dean Hively is doing some work on that right now as well. So, I think that my recommendation to the Bay Program is that, similar to this, a methodology be created that's specific to that individual BMP being verified.
James Martin: How are the methodologies that you are using or proposing to use, different than what CTIC is doing in their tillage determinations through remote sensing nationwide?
Tom Howard: CTIC reports in different buckets than the Chesapeake Bay Program uses. The problem is not necessarily with the modeling approach that they've used. It's with their output. They have a 50% threshold, I believe, and it's not one to one unfortunately.
James Martin: Aside from how they lump the results, are they using the same frequency bands that you are looking at? Are they using the same satellite system that you are using? It's more the technological side of the process rather than how the results are aggregated and reported that I'm asking about.
Tom Howard: For that type of question, I just want to start by saying this approach is supposed to be model agnostic. So, CTIC can use different methods than we use and different sensors, but if they still meet the accuracy requirements, those results should be accepted under this methodology framework being proposed. Generally, in terms of what we're doing, some of the satellites are the same, so Landsat 8 and 9 are being used by CTIC. I believe Sentinel is potentially being used. I'm not certain on that. We're using all of that data. We also, in our current model development, are using data from a commercial satellite provider, which is Planet. Planet finds the higher resolution data both spatially and temporally. The bands that CTIC are using are more prominently featured in the Landsat and Sentinel data, so those are also being incorporated with the Planet data.

James Martin: Maybe this is me putting words in your mouth or wishful thinking, but the methodologies used by the CTIC seem like they are likely consistent, aside from how they characterize the results, whether they do it in the same steps that we have for our BMPs: less than 15, 15-30, 30-60, 60 and over. If theirs is 25, 50, 75 splits, that, to me, seems a little bit of a nuance. So, it seems like there may already be a data set out there that the partnership could grab, compare with previously collected transect survey data, and maybe we don't have to do this. We can utilize the existing CTIC and see how it lines up with data that we collected in previous transect survey years.
Tom Howard: I think that's exactly the intention. The idea is that the best strategy for the Bay Program, in my opinion, is to have a unified method that's able to kind of globally classify conservation tillage BMP implementation to a degree that meets performance requirements and allows enhanced implementation, as opposed to having people spend time monitoring. There are many different ways to go, to that point, so that's why this modeling approach is proposed to be model agnostic.
James Martin: Thanks. I really appreciate the presentation and the work. Pennsylvania, thank you for leading this effort. I do think there's a lot of potential here. The transect survey is definitely cumbersome. My last two cents is that it really feels to me like we are feeding an elephant with a pair of tweezers. So, we are trying to get a higher level of accuracy in the data we are reporting for BMPs into a giant regional scale model that has so much other error that the levels that we're going to with this BMP seems so much like overkill. It's just crazy to me. So, that's an overarching statement, Thomas, not about your work. It's about how we've developed our BMP expectations. So, I'll just leave it at that.
Dave Graybill (in chat): how does this methodology approach address any private property concerns that individuals may ask
Amanda Barber (in chat): So if verification accuracy is not met, what recourse will the county have? Can HUCs or other geographic areas be reassessed/verified?
Tom Howard: I see there are two questions in the chat. The first is how does this methodology approach address any private property concerns that individuals may ask? I think that's something that each jurisdiction that implements this needs to work out. This NDTI is freely available data that can be calculated using satellite data provided by NASA and the European Space Agency, so that data is out there. The question is, once it's processed, how does each state kind of use and protect that information? In terms of the specific application to this methodology, the data is going to be reported at a larger scale, county level scale, so there aren't going to be property concerns in that, right? However, this also offers opportunity for targeted outreach which, maybe not today, but later on we can talk more about. Then Amanda, great question. If verification accuracy is not met, what recourse will the county have? Can HUCs or other geographic areas be reassessed/verified? So, there are a few different options. One, most of the satellite data is being collected frequently, consistently. It doesn't actually require tasking, so there's the data that can be reprocessed using different methods. Secondly, more field data can be collected. That data can be used to calibrate the method, or a traditional method can be used in place. I do not remember the exact geographic locations that are required to be reported in NEIEN. I think it includes county and HUC, but in the methodology it does specifically call out what those are.
Scott Heidel: Excellent presentation. Really well done, and thanks to everybody that was involved with this and still is involved with this development. I think this has brought applications for the Chesapeake Bay, but it is also important for us here in Pennsylvania for our local TMDL development that we do within the state. So it does have really positive outcomes if we can dial in the BMP implementation at this local scale and get huge accuracy improvements over the

transect survey. It's also going to give us access to areas that we really couldn't hit very well with the transect survey. So, just wanted to leave it with that.
Tom Howard (in chat): As noted in "Conservation Tillage Practices for Use in Phase 6.0 of the Chesapeake Bay Program Watershed Model," to receive credit for reduced tillage practices, states must report the following information to the National Environmental Information Exchange Network (NEIEN):
•BMP name (reduced tillage, conservation tillage or high residue tillage management)
•Measurement name (acres)
•Land use (CROP or an approved NEIEN agricultural land use class)
•Geographic location (county, county area within the Chesapeake Bay Watershed, hydrologic unit code, or state area within the Chesapeake Bay Watershed)
•Date of implementation (year residue cover was observed)

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Innovation

11:00 **Soil Health Outcome Proposal – 55 minutes (presentation, discussion, and pulse-check)**
Beyond 2025 Phase 1 Climate Small Group Representative(s)

During Phase 1 of the Beyond 2025 process, the Beyond 2025 Steering Committee convened several small focus groups around key pillars of the partnership's work to provide input on the post-2025 priorities of the Bay Program. These small groups produced recommendations for the Steering Committee. The Climate Small Group drafted recommendations, several of which included the action item/strategy of pursuing a CBP Soil Health outcome. Now in Phase 2 of Beyond 2025, the partnership is undertaking a review of all 31 of the outcomes listed in the 2014 Watershed Agreement and considering the possibility of adding new outcomes. The Management Board has requested information related to novel outcomes be brought forward at their March 27th meeting. The Climate Small Group has developed a two-pager outlining key considerations for a soil health outcome, which, as currently written, has a focus on agriculture. WQGIT leadership has recommended the Small Group representatives bring the outcome to the AgWG for an initial presentation, with a request that feedback from the group is captured and shared with the GIT and/or MB. No official vote was requested, but input was sought on whether or not soil health deserves consideration by higher-level partnership bodies as a possible outcome.

Discussion:
Elizabeth Hoffman (in chat): A question that Maryland has is - what would a new outcome mean for additional reporting, additional meetings, new workgroups or committees (?), etc. A concern is that this could splinter conversations, not align with the larger desire for streamlining, and create

challenges in the balance between doing the work and justifying the work (verification, QAPPs). We support soil health and will continue to advance that initiative within our state, but maybe not as a new outcome. That is a distinction to be clear on. Would this be the only time to add this as a priority or could we wait until the agreement and partnership streamlining effort occurs to then see how it could fit best?

Doug Bell (in chat): https://www.chesapeakebay.net/files/documents/PSC-Proposed-Agreement-Revisions-Process-Final.pdf

Eric Hughes: Good question and not one that we're hearing for the first time. I think the timing of all of this is something that's come up not just in our group, but in others as well. Sort of the order of operations and how do we go about doing this? So, we have Doug Bell here. Doug Bell is joining us, and he is very intimately involved in the Beyond 2025 Phase two outcome review process. Doug, I appreciate you being here. This may be one that I punt to you in terms of the timing of all of this. Is that something you can speak to?

Doug Bell: Sure. So, what's driving the timeline of all of this is this schedule that was agreed upon at a high level by the PSC and the Management Board in terms of what's the sequence of things. The first thing that the partnership was going to go after was taking a look at the current agreement. So, you've got the goals and for this conversation, you've got the outcomes. So, the first thing was going to look at what's the action to take with outcomes in the current Watershed Agreement. Do we want to update it? Do we ant to think about it in a different way? Do we want to kind of retire it? So that's why this chance for novel outcomes is slotted into this kind of sequence. Later on, there's other aspects that are documented in this schedule that pertains to overall program operations. There are two components to the Beyond 2025 charge. One is taking a look at the 2014 agreement and making changes. The other one is called taking a look at streamlining and structure changes, and that comes later, and it could entail a lot of different things. I think of that component of basically broad program operations. How do things fit together? How do we do standardized processes across the partnership? So I think with respect to the accountability feature, the SRS has been talked about a lot in the past year in terms of what's needed to change it, enhance it. The process has it that outcomes are being nominated now, and that is occurring on the 27th and on April 10th. We're seeking basically a thumbs up if we want to make further commitment to an outcome. So, that's where soil health would kind of get the green light, let's continue developing this. There's about two months of refining the language that you could then speak about what is it? How do we frame this? What do we want to commit to with respect to language and an outcome? Later, the aspect with making changes to how we operate, we don't have the answers there. That could go in a lot of different ways. The accountability cycle for the program, that's the SRS process. They're two years long. The Water Quality GIT wanted some flexibility in that. So, I think the partnership is ready to kind of take a hard look at how we do accountability in the partnership. So, I think there's chance for this group, the AgWG, to influence that conversation starting now. I think that will occur in greater detail after April 10th where we kind of have a green light for everything. I ran through a lot of topics, so I may have confused folks. Let me summarize again. That link I shared in the chat is what's driving the timeline. I don't see it changing at all. The guidance will be coming out on how outcomes will be written with respect to an accountability basis. How do you put down numeric values? That's something that can be evaluated from a SMART perspective. I think Ruth touched on that.

Jim Riddell: I kind of was following up on what Elizabeth said, and I know we all recognize as researchers and scientists, how important soil health is in agronomy and agriculture, crop and soils. I guess the focus of my comment, along with Elizabeth's challenge is it is going to require additional accountability. In some days of the week, I know you hear it and you see it, we don't

necessarily have the accuracy and the verification that we look for, already, with some of our work. I wanted someone to go ahead and mention what are the two other outcomes that are being proposed? So, if we continue to add outcomes, it does change the dynamics of the whole thing. Our core principle, as we started this 25/40 years ago, were certain needs. I understand we need to change. However, I am concerned that our state partners will have to do a lot of extra work, and what will the metrics be that that we're trying to shoot for, the specifics? I'll stop there, thank you. We all know how important soil health is.

Doug Bell (in chat): Answering a question I heard on proposed Outcomes:
(1) Oyster Abundance (modeled after Blue Crab Abundance, presented by NOAA, GIT1)
(2) Fish Habitat (a non-tidal component proposed by MD, GIT2)
(3) Soil Health (proposed by GIT1)

Eric Hughes: Thanks for that comment, Jim. The big concern here is we are being asked to endorse something that we haven't really had the opportunity to workshop. I think Elizabeth's question and what others might build on is, Doug, what it's going to take? Are we going to need all the Management Board members to say, yes, we enthusiastically support this as becoming an outcome before we can really get to the specifics of what it looks like? On the timeline that exists, I don't know that it will necessarily be possible to build this out in a way that folks will be comfortable with. What's the timeline look like? What's it going to take?

Doug Bell: I think the immediate decision by the Management Board would be we support this ecosystem area, environment or socioeconomic area, whatever it may be as a point of emphasis for the program and then work up the details from there. So basically, think of it as a gate check.

Eric Hughes: And the gate check would be?

Doug Bell: Move forward with continuing to develop the language.

Eric Hughes: Ok. So, developing the language. It would be definitively an outcome? I know there are other words floating around out there, output, etc. If the MB were to say we support this area, but would they be able to say we don't think it's an outcome, we are going to put it in one of these other bins, or is that not really the purpose of the exercise?

Doug Bell: I think with any design process, you can come back and kind of look at your assumptions of what makes sense. So, if you are working up the language and you see a different kind of functionality for how it plays into the program, I believe this workgroup would be the managers of the outcome and then working with GIT 3 and the Water Quality GIT. So the experts on this and the knowledge base of what it means with respect to the existing partnership, I certainly think between April 10th where there's a thumbs up to proceed, continue scoping, and there's a meeting in early May where a lot of the final draft outcome language will be workshopped as a Management Board and other parts of the partnership, some new understanding could come into play. I wouldn't rule that out. I think if you say, hey, we are proposing this for an outcome, but hold on maybe it's an output, I understand they might just be like why did you propose it as an outcome? That's where I go back to the short timeline. We're still thinking about it and, again, any type of design process, I think you need to allow yourself to kind of reassess your assumptions and see what makes sense.

Amanda Barber (in chat): Just a note: Our current efforts focus on improving soil health and implementing BMPs that may result in some benefits. But healthy soils, where perennial cover already exists, are at risk and we need strategies to maintain them.

Elizabeth Hoffman: I'm just listening and trying to process. Thank you to Ruth because your presentation was excellent. We appreciate that you're kind of really championing this work. But, the problem is it's nothing to do with the topic of soil health. It's about that it's very unclear how the framework itself and the partnership is going to be adjusted and tweaked. It's getting in that

big bucket, and that's where it's hard to parse out if this is the right way forward. I know that outcome as a word is not simple. It's not just do we think this is a priority topic? Sure. An outcome, big O, is a little bit different, right? No one has quite been able to answer that question either about what that means, different than it being an indicator. I think the larger theme that I'll just say because I think Maryland will say this in all the upcoming meetings, is that part of Beyond 2025 was the idea that the framework and partnership is layered such that it is hard to keep up some days. So, like the idea of if this is going to bring collaboration, sure. But if it's talked about in an additional group, an additional meeting, it just is splintered some days. Zooming way back out, if we're looking to streamline, we're a little confused how adding outcomes is part of that process, and also maybe what a "big O outcome" means. I think sometimes there's been nuance attached to that word that is not defined, but it makes us nervous to commit to it, and then it becomes something later that no one really explained.

Kathy Boomer: Ruth, thank you for your leadership in this. 2) About time the AgWG is brought into the Beyond 2025 discussion. So, really appreciate this topic. Just really want to underscore the urgency of soil health. Most of all, because it's of great concern to our constituents, to producers, and urban land managers across the watershed. So why wouldn't you create a space to bring them to the table more authentically and to work with them in better understanding how to manage an outcome that you could argue is comparable to healthy fisheries? Not only would it provide space to engage with partners, but a soil health outcome would align with national priorities and research opportunities. I would argue the Bay Watershed is way behind the times in terms of embracing, understanding, utilizing the science that is being developed more broadly, not just across the country, but around the world. I would say that I understand the concerns, the uncertainties around soil health practices and how best to measure and evaluate soil health, but it's really no different than the uncertainties around how best to manage water quality and are we monitoring the most important water quality parameters? So, there's very comparable uncertainties and a lot of evidence to suggest the benefits of working with stakeholders to advance soil health. Finally, what excites me about soil health is it would finally bring more attention to managing carbon and in order to manage carbon, you have to consider water management. It kind of befuddles me that we have not focused more on carbon management, both for climate resiliency, but even more importantly for ecosystem health, aquatic health, and that we don't really have water management in our toolbox for soil health and watershed management. So, for all those reasons, I think soil health outcome is critically important to advancing the Bay's restoration. I would just close by wanting to ask a question about the process. I know where we might be overwhelmed by the prospect of another outcome, but my understanding is that further down the line in this process, there will be an opportunity to evaluate overlap and consolidation of these outcomes, and I would bet that soil health will stand on its own as we integrate these different outcomes and think about how we can manage trade-offs and multiple outcomes together. Thank you.

Jim Riddell (in chat): Eliz. comments are useful. Beyond 2025 suggests streamlining CBP. Recommending before knowing details

Dave Graybill: Yeah, I certainly appreciated Ruth's comments. I like the way that whole presentation was put together. The point that I want to make is as a farmer, ag's already doing soil health at a very aggressive scale. It's because of the profitability that her study has shown there, It's very profitable to have a healthy soil. If you don't have healthy soils, you don't have great yields on your crops. So, my question to the work group is, by adding it as an outcome, are you going to make cropland better? I'm coming off of Maryland's comment. They're already doing soil health, and I think most jurisdictions are doing something with soil health currently. So, the question is, is

making it an outcome really going to make a difference overall, or should it just be part of something they're already doing? Thank you.

Kathy Brasier (in chat): This conversation is urgent given the MB timeline, so we will stay on this topic for the remainder of our time. We will circle back to our planning process and provide more time for that discussion in April.

Elizabeth Hoffman (in chat): I do want to emphasize - Maryland supports soil health being part of the conversation, and including those initiatives and partners in the conversation, would just seek clarity on if outcome is the best pathway or should we think of it differently.

Ruth Cassilly: Dave, I appreciate your comments very much. I think one thing that we could bring to it which would help advance things is that sharing of information component and bringing the attention to the discussions that need to be had, so that we're moving towards BMPs that we're recommending that have these multiple benefits and that could, in the long run, provide additional benefits for farmers. I know that people are working on it, but there's a lot of room for improvement, I think. I think having the resources of the Bay Program and kind of looking into are there other ways that we could scale this, are there tools that we could use to make soil testing easier? Those kinds of questions, entities are working on them and there's different options for everything, but having a place to have those conversations and share information, I think is huge, and the Bay Program can provide that.

Ken Staver: Everybody supports soil health, but I come at it from two perspectives. A lot of the comments I would agree with. For crop production, like grain production, which is our big acreage and a lot of our nutrient losses, tillage intensity and cover crops are the two big things. There's not enough compost to put compost on a significant number of acres, right? The mushroom compost is getting spread like crazy. The manure is getting spread like crazy now. It's all going on crop land, basically. So, there's no more organic sources to put out there than we're already putting out there. So realistically we're talking conservation tillage and cover crops, which we're already working on from a water quality standpoint. So, I sort of agree with Dave's comments that we're already doing these things, and making a more complicated metric out of it as a problem. But from a scientist's perspective, one of the big problems we have is we have not come fully to grips with the problems of conservation tillage and dissolved phosphorous losses. This is a national problem. This is not just a Maryland problem or just a Bay problem, and as we go lower in tillage, especially when we have lots of organic waste. So we're putting out high solubility nutrient materials on top, and we start pushing on less tillage, less tillage, and we're hearing it from manure incorporation. If you go look at the nutrient management language in Maryland, we had some incorporation requirements passed for manure, for manure sources, and they were actually killed. They were killed, and the language is because of soil health concerns. I don't know where we go with this, but I don't think we resolved the science, and we're almost being asked to accept upfront that soil health automatically translates into better water quality, which we have not actually resolved that issue with all the subtleties and the nuances. The states can deal with whether they want to deal with another metric and all that, but from a science standpoint, I think there's still some things to be worked out before we put this up there as an outcome. Then the last one, from a farming standpoint, if this makes money for farmers, farmers are very good at figuring out how to make money. As Dave said, it's profitability. So, conservation tillage is mostly adopted because it saves on fuel, it saves on labor, you don't need as big tractors. Yes, there's lots of benefits, but it makes money for farmers. That's why farmers are doing it mostly. So, if it makes farmers all this money, there's extension, there's private sector, there's all these things that can get that out on the land. I think it kind of dilutes our effort, and Lord knows we already have a problem tackling the goals we already have.

Jim Riddell (in chat): Va. has made soil health progress- very important- and funds practices. I question if - an outcome is the right pathway also.
Jim Riddell (in chat): I agree with Ken's comments
Ruth Cassilly: Well, I do think there is some room for additional green manures, and food waste, and some of the circularity that we're trying to improve on with manure treatment and balancing our nutrient mass imbalance, could lead to more availability of biological fertilizers. That's one thing I think is important to have conversations on and a topic I think we could bring to the workgroup for discussion. I do think there's a lot of research that supports that soil health improvement does directly improve water quality. But, again, having it as an outcome leads to those discussions. So, I think some of what Ken said kind of reinforces the need to make this more of a priority in our discussions.
Gurpal Toor: I just want to echo what Ken said. There's a lot of noise surrounding soil health, and, many times, these isolated studies are done in very different climates, also uses very different ways to do that. So, I think it's really challenging and complex when you try to look at what makes soil healthy, and that's a broad, vague definition. When you talk about soil being healthy, are you talking about less nitrogen loss? Less phosphorus loss? More carbon? So, there's a lot of noise around the around it, and there are different parameters people are using, which, to me, sounds silly. You're scoring soils. All the soils we know are not the same. Eastern Shore, for example, we are in coastal plain. As you get towards the western part of Maryland or Pennsylvania, you are in Appalachian Piedmont, which we know are more heavy textured soils, which are naturally better. In some cases, you are blessed to either have good soils or not. I think it's really complicated to try to put a number on it. The second point I will say is how are you going to measure it? There is a sort of huge debate on should you actually go take samples or should you actually model? We are doing a pilot project in Maryland to answer that question. It's really complicated. I think you really probably want to think through this and maybe convene the people who have expertise in this area and then see what comes at it, rather than just getting on the bandwagon of soil health, which not only are all federal agencies are doing, but different states, nonprofits are doing. So, I think it really needs good thought.
Nick Hepfl: I kind of agree with everything that's been said so far. It's all really good. I guess the one thing that's still sticking out in my mind, maybe as scientists and professionals in this field, we don't go straight to the scientific metric because, as we all understand, soil health is so noisy. Science doesn't yet understand even the benefits of what we're dealing with. In the "big O", perhaps what we think about is how can this workgroup support communications and regional advancements in the adoption? How do we support the initiatives that are already on the ground? Is this a space where we can, again, share those ideas and support the communication around soil health and everybody's own learning objectives that we have within Pennsylvania, New York, Maryland. Everybody has such distinct and unique regions. Even though we don't yet fully understand it, we all recognize that there is a benefit of some sort for crop production, at least, and for sustainability, which is which is all in our goals. I wonder if, thinking forward, maybe we just narrow down the thought or simplify it perhaps. Maybe we just don't jump to a metric because we're advancing cover crops or no till, the things that we're already doing, those are all components of it, but maybe our platform serves as a collaborative workspace to help advance those current voices that are out there on the landscape and build communication between all of us. Maybe our soil health outcome, it doesn't have to be another reporting metric for us, but perhaps it's something like that. I just wanted to get that idea out there for you all to chew on, I guess.

Doug Bell: Nick brought up a good point. There is another outcome, the toxics contaminants research, folks have been talking about what to do. There are two toxics outcomes. One is based on research, and it's been a hub for kind of sharing information, and it seems like toxic research might hold itself into the agreement with a non-metric type language. So, I certainly wouldn't rule it out, and my hope is that good ideas win in this process. So, I wouldn't rule it out. I've been hesitant on the "every outcome needs to be smart" point, because I think kind of in terms of technical readiness levels between certain information. Some area of work might be best as a hub for sharing information, communication of research, while others are more suited to be implementation focused. So, sometimes I think the nuance gets lost when we have 80 people attending a Management Board meeting. I hope that good ideas win out, so whatever you guys think is the best idea.

Doug Bell (in chat): https://www.chesapeakeprogress.com/clean-water/toxic-contaminants-research

Ken Staver: One other comment, and I don't mean to be a wise guy, but as the AgWG, I think anytime anybody asks us anything about soil health, we should kick it back up the food chain. How many thousands of acres are getting paved over every year in the watershed with very detrimental impacts on water quality and living resources? So, I think priority one in soil health should be don't pave it over. So, again, sounds a little wise guy-ish, but I just think we lose sight sometimes of some of the really big things that are going on that are impacting the Bay and agriculture, and our sustainability and productivity. So, I think that that should always be in that discussion from an ag side.

Elizabeth Hoffman (in chat): Part of the disconnect in these conversations seems to be that partners interact with the CBP very differently. Some do use these spaces as sharing information and research, others have experienced challenges in trying to advance their work within the framework of the model and workgroup decisions.

Elizabeth Hoffman: Yeah, since Ken opened the door, I think that's part of the disconnect even right now, today in this meeting, is that kind of understanding or how folks interact with the Bay Partnership. I think James Martin said it just earlier, the hoops we go through to just verify existing water quality practices, then all of that to be done within a system that has very large issues that we have whole modeling teams committed to. It feels like you're asking us to put new siding on a house that the roof is leaking. So, I don't mean that to be disparaging like Ken said, but the order of operations matter. So, I don't want it to be construed that any jurisdiction does not support soil health or advancement of all of these other climate smart ag, but sometimes we already have existing spaces that we do that work. I hope that lands well, but I think that's part of the disconnect even now of what part are we talking? Are we doing just networking and sharing, or are we doing you're going to make us write additional QAPPs, and things like that? So, that's something to clarify even when asking these questions in these work groups.

Amanda Barber (in chat): My point exactly Ken - thank you!

Eric Hughes: Really appreciate that, Elizabeth, and frankly any and all feedback lands well. Really appreciate everybody providing input on this, and I think it equips me quite well to go forward to the WQGIT and summarize where we stand on this. The topic is something that we support and really endorse, but at this stage, and the way that things have gone, probably not suited as an outcome necessarily beyond being something that we discuss and explore further, but not a metric that we are held to at this point.

Kathy Boomer (in chat): SH practices could (should) include more than tillage, cover crops, and manure app'ns. For example, we often overlook that drier soils enhance decomposition and OM loss - suggests likely importance of conservation drainage (a more nuanced approach to drainage

management) vs conventional tiling installations. 1) The most crucial reason to value soil health is its importance to key stakeholders and their vision of a healthy watershed, including food security. 2) Also valuable to realize uncertainties arguably are comparative to (lack of) understanding of BMP water quality performance.
Ruth Cassilly: I just wanted to thank everybody for the thoughtful consideration again, and the input is really appreciated, especially from the jurisdictions that are dealing with issues. So, it's helpful to have your insight.
Dave Graybill (in chat): increased soil health currently should be considered on current BMPs that use old data for their nutrient control
Kathy Brasier: My thanks is all to Ruth and her team for the development of that presentation. That was very useful. I do want to connect the dots a little bit today with the topic we didn't get to today, which is about the strategic planning process. I do think that soil health will come back in our conversations in the strategic planning process. So, it sounded to me that there's a lot of interest in the topic, exploring it, looking for opportunities to do more research. So, I think it will keep coming back over time, even if it doesn't move forward as a formal outcome.

AgWG Planning

11:55 **Review of AgWG Priorities Document – 20 minutes (presentation and discussion)** *Eric Hughes, AgWG Coordinator*

Note: The timeline for the Beyond 2025 outcome review process is short. The AgWG dedicated more time to the soil health outcome topic than scheduled to accommodate this compressed timeline, so the AgWG priorities document was not discussed; review of the document will occur at a subsequent meeting.

Wrap-up

12:15 **New Business, Announcements & Updates**

- **Agricultural Advisory Committee**
  - The AAC has been established and had its kickoff meeting on March 27th. Meeting information can be found here.
- **Watersheds Selected for Maryland's Whole Watershed Act Grant Funding**
  - On March 6th, 2025, Maryland Department of Natural Resources announced that five watersheds have been selected to receive grant funds under the Maryland Whole Watershed Act. The selected watersheds include Antietam Creek, Baltimore Harbor, Newport Bay, the Severn River, and the Upper Choptank River. Click here to view the news article from Maryland Department of Natural resources and to learn more about the Whole Watershed Act.
- **STAC Publication- "Tiered Implementation of the Chesapeake Bay TMDL: A STAC Prospectus"**
  - STAC recently released the "Tiered Implementation of the Chesapeake Bay TMDL: A STAC Prospectus". This document serves as one of multiple anticipated outreach products resulting from the Comprehensive Evaluation of System Response (CESR) report and further describes what a tiered approach to Bay TMDL implementation

might look like. For more information and to download the report, please see the following link.

- **Other Announcements?**
  - Send to Caroline Kleis (Kleis.Caroline@epa.gov) for inclusion in "Recap" email.

12:15 **Adjourn**

Next Meeting: Thursday, April 17th, 10:00AM-12:00PM

Participants

Kathy Brasier, PSU
Caitlin Grady, GWU
Eric Hughes, EPA
Caroline Kleis, CRC
Emily Heller, EPA
Cindy Shreve, WVCA
Emily Dekar, USC
Kathy Boomer, Foundation for Food and Agriculture Research
Mark Dubin, UME/CBPO
Scott Heidel, PA DEP
Tom Butler, EPA
Tyler Trostle, PA DEP
Dave Graybill, Farm Bureau
Caroline Harper, Campbell Foundation
George Doumit, DNREC
Roland Owens, VA DCR
Paul Bredwell, U.S. Poultry and Egg Association
Jeff Sweeney, EPA
Greg Albrecht, NY Dept of Ag & Markets
Erin Sonnenburg, EPA
Michael Morris, PA DEP
Brady Seeley, PA SCC
Ashley Hullinger, PA DEP
Alex Echols, Campbell Foundation
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Auston Smith, EPA
Hannah Sanders, EPA
Tom Howard, Resolve Hydro
Helen Golimowski, Devereux Consulting
Elizabeth Hoffman, MDA
Michael Coverdale, DNREC
Matt Royer, PSU
Hankui Zhang, South Dakota State University
Bailey Robertory, DNR
Leah Martino, EPA
Kristin Fisher, TNC
Patrick Thompson, Energy Works
Dean Hively, USGS
Jim Riddell, VA Cattlemens Association
Mara Walters, VIMS
Seth Mullins, VA DCR
Tammy Swihart, USDA/NRCS
Nick Hepfl, HRG
Hunter Landis, VA DCR
Carlington Wallace, ICPRB
Ruth Cassilly, UMD/CBPO
Gurpal Toor, UMD
Amanda Barber, NY Cortland County SWCD
Sara Ramotnik, NWF
Ken Staver, UMD
James Martin, VA DCR
Bill Fink, Country View Family Farms
Cathryn Soriano, DNREC
Doug Austin, EPA
Karl Blankenship, Bay Journal
Katie Brownson, USFS
Breck Sullivan, USGS
Sushanth Gupta, MWCOG
Doug Bell, EPA

Acronym List

AgWG- Agriculture Workgroup
AMT- Agricultural Modeling Team (Phase 7)
BMP – Best Management Practice
CAST- Chesapeake Assessment Scenario Tool (user interface for the CBP Watershed Model)
CBP- Chesapeake Bay Program
CBPO- Chesapeake Bay Program Office

This meeting will be recorded. Sharing of recordings is not permitted due to current EPA policy.

CBW-Chesapeake Bay Watershed
CTIC – Conservation Technology Information Center
CVN – Conservation Validation Network
EPA - [United States] Environmental Protection Agency
FSA – Farm Service Agency
MLRI – Modeled Load Reduction Indicator
NRCS – Natural Resources Conservation Service
NFWF – National Fish and Wildlife Foundation
ORISE – Oak Ridge Institute for Science and Education
PADEP – Pennsylvania Department of Environmental Protection
PSC – Principals' Advisory Committee (CBP)
PSU- Penn State University
SWCD – Soil and Water Conservation Districts
WQGIT- Water Quality Goal Implementation Team
UMD - University of Maryland
USDA – United States Department of Agriculture
USGS – United States Geological Survey
USFS – United States Forestry Service