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# Agriculture Workgroup (AgWG)
## Meeting Minutes
## September 18th, 2025
## 10:00 AM – 12:00 PM
## **Meeting Materials**

## Summary of Actions & Decisions

**Decision:** The AgWG approved the minutes from the August AgWG meeting.

**Action:** AgWG staff will continue to pursue ways to create and improve reference materials and communication tools for tracking 1) ag BMPs available for crediting and 2) ag BMPs currently credited that may be in need of partnership reevaluation.

**Action:** AgWG participants are encouraged to provide feedback on priority practices for credit or reevaluation, methods for tracking credit and BMPs to review, and if the AgWG should consider a standard timeline for review of ag BMPs. Members should consider discussing priorities amongst their jurisdictions/organizations to help inform a larger conversation at a subsequent meeting. Caroline and Eric will solicit input from AgWG members.

**Action:** AgWG participants with comments or feedback on what remote sensing-based verification efforts currently exist in the watershed, the possibility of watershed-wide tracking and verification of BMPs, BMPs of interest for remote sensing, and current resource allocation for verification of practices should reach out to Eric Hughes (Hughes.Eric@epa.gov) and Caroline Kleis (Kleis.Caroline@epa.gov). Caroline and Eric will solicit input from AgWG members.

**Action:** Caroline Kleis, AgWG Staffer, will email a call for nominations for at-large membership and Vice Chair to the group in early October. Those who wish to nominate or self-nominate should contact Caroline Kleis (Kleis. Caroline@epa.gov) and Eric Hughes (Hughes.Eric@epa.gov).

## Intro & Announcements

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

- Roll call of the governance body and meeting participants - *Please enter name and affiliation under "Participants" or in "Chat" box*
- **Decision:** The AgWG approved the minutes from the August AgWG meeting.

10:05 **Agricultural Advisory Committee Meeting Recap – 10 minutes**
*Bob Waring, AAC Vice Chair; Colonial Soil and Water Conservation District*

Bob Waring, AAC Vice Chair, provided an overview of the latest meeting of the Agricultural Advisory Committee, sharing the leadership team's key takeaways and the group's interests and near-term priorities.

**Discussion:**

Olivia Devereux: Bob, I didn't hear when you said the entire group came to the conclusion that which was more important, being yield-driven or profit-driven?

Robert Waring: We think profit-driven, especially with the challenges we face. In my opinion, and it was seconded across everybody, we have to move into a profit-driven system because of what we face. It's unfortunate that we are in a yield-driven system in this country, which can be irresponsible in my opinion, to some degree, as producers. We've got to figure out how to mitigate the challenges that we face over the next decade.
Elizabeth Hoffman (in chat): In Maryland, our agency (MDA) has some programs in place or being developed that connect to farm profitability and emerging technologies. I'd encourage you to reach out to us for further discussions, happy to be involved. Those are not programs that get highlighted in this current CBP realm, as often, but would align with these AAC goals.
Robert Waring (in chat): Thank you Elizabeth, and yes, would greatly appreciate having a conversation in the near future.
Alex Echols (in chat): We have been working with suppliers and crop advisors on shifting to a profit-driven model for several years now and seeing very positive farm viability and environmental effects. We are seeing significant drops in application rates but more importantly in nutrient loss rates.
Eric Hughes: We are a little bit over time here, so if no one has any burning questions to come off mute to ask, put them in the chat and certainly don't hesitate to reach out to Bob. Something tells me this isn't the last time we are going to be seeing and hearing from you, Bob. So, looking forward to this connection.
Bob Waring: I hope so. Thank you, Eric, for the opportunity. I appreciate it.
Kathy Brasier: If anybody is at the NFWF Ag Networking Forum and Bay in the Balance, we can use that as an opportunity connect with the AAC on this and other topics.

## Accounting & Reporting

10:15 **BMP Crosswalk Review – 50 minutes (presentation and discussion)**
*Olivia Devereux, Devereux Consulting*

The AgWG oversees and facilitates partnership-led changes to credit assigned to the agricultural Best Management Practices (BMPs) recognized in the Chesapeake Bay Program's suite of modeling tools. Members of this workgroup strive to ensure that the widest possible range of practices are represented in our modeling tools, and that they are represented as accurately as possible based on the best available science. Olivia presented a resource she has developed to show the NRCS-recognized BMPs with CBP-recognized BMPs. This demonstrates the breadth of coverage of existing CAST BMPs. The workgroup discussed potential applications for the crosswalk and information to add to make the resource more useful.

**Discussion:**
Alex Soroka (in chat): Here's a recent data release that has a crosswalk of various practices and their names which Olivia put together. The release has multiple tables which relate NRCS names and codes with what states submit (the tables are in text format, to easily read you may wish to open in excel or other spreadsheet document). These tables are used to crosswalk names and

practices to harmonize the information between multiple state and federal agencies. This shows some of the challenge in wrangling these data as some practices maybe labeled in quotation marks, or not, they may have a slightly different spelling between groups etc.
Relationships Among Agricultural Data Sources of Conservation Practice Implemented in the Chesapeake Bay Watershed - ScienceBase-Catalog
Alex Echols (in chat): I see water management is excluded - that is how nutrients move - what is excluded by this?
Elizabeth Hoffman (in chat): Drainage water management or irrigation water management?
Alex Echols (in chat): On the table - it was simply water management - so not clear what practice(s)
Christi Hicks (in chat): What practice code?
Olivia Devereux: Maybe Christi can respond to what water management is and if Elizabeth or one of the other states wants to talk about that, that would be great. Yes, that is how it moves, but the source of it is what's important. So, if it's installing a pipeline, that's less of a water quality BMP, but it's part of a set of irrigation controls. Perhaps Elizabeth wants to come off mute or Christi can speak more about that one. I may have classified it incorrectly, and I am happy to change it. But, again, this table is not a requirement for anybody to follow.
Olivia Devereux: Let me just say to Christi, irrigation water management and plan design, those are 118, 119, 163. Drainage water management and irrigation water management, I map to cropland irrigation management and drainage water management BMPs. But, there is one called EWM (Enhancement-Water Management), and I didn't really know what that one was, Christi, but I could definitely change that in this table if I've classified that incorrectly. Elizabeth, please go ahead.
Elizabeth Hoffman (in chat): No, same question, depends on the code.
Christi Hicks: Let me dive into those. I'll just take a snippet of those practice codes, and we can kind of get together on that. Is the question related to one of those particular codes? Is it just the EWM?
Olivia Devereux: I think it was the EWM that Alex was most interested in, since I didn't know how to map that one.
Christi Hicks: I could look at that specifically and provide some more information. Honestly, that one might not be utilized super frequently anyways, but I can look into that. There should be a practice code associated with those EWM letters typically. So, I am unable to answer 100% right now, I apologize.
Olivia Devereux: I will say that all of the states have been fantastic. I usually reach out to the state technical contact, and I say there's something in your data that I am seeing, can you help me understand? They're awesome. I actually know that EWM is a really old code for what is now something like 449 or 554. That's an old code, Christi.
Christi Hicks: Most likely, that would just be an enhancement to the 449 and the 554. So, if you have those two practices crosswalked, probably the water management could be crosswalked to the same. I don't know if you would know whether it would tie to 449 or 554. Certainly if there's another NRCS person on the call and you have a different opinion, please share. Probably the safest bet would be 449.
Elizabeth Hoffman (in chat): In some cases, a state chooses a single code to track. And enhancement is sometimes a "repair" (like re-seeding), but Christi would know more on this one.

So, we wouldn't report that code, we'd report the "reestablishment" of the practice through verification. Vocabulary may differ.

Alex Echols (in chat): Not trying to dance angles on the head of the pin - just it was not at all clear in the table.

Olivia Devereux: I will put that note in here, too. I will follow up with Christi to see which state or states that falls into, but then I will update this. This was really just to show you how this works.

Elizabeth Hoffman: I think a broader answer to Alex's question is that there are sometimes going to be multiple codes on this table that speak to the same footprint of land that we report. Sometimes you have the actual planting of a buffer or whatever, and there might be things where it is receded, and that's a separate code, but it would not require a state to report that as a unique BMP in the model. It is just kind of part and parcel to the same practice and footprint, if that makes sense.

Christi Hicks: I'm unsure how to respond to that. In a given year, a field office would likely not report the practice code. The 449 would not be reported on the same footprint in the same year as the enhancement. Recognizing this is a multi year effort, I think that's what you were alluding to.

Elizabeth Hoffman: I think we are on the same page.

Christi Hicks: I see where you are going with that. If two years from then they do an enhancement, it could be on the same footprint. Then you would have to just look at the credit duration. So, what is the credit duration for 449, for instance, Olivia?

Olivia Devereux: I think with the enhancements that you are supposed to implement the core practices first. If it's no till, you would do 329 and then another year you would do the enhancement. So, the idea is we want to count it every year that no till practice is in place, but if it is something that's a structural practice, we wouldn't want to count it as if it were new each year. So, we just have to make sure we don't have duplicates, and the states do a good job with that.

Ken Staver: I just remember having this conversation a while back, and it was about the CSP program, which has been a major program over the years in some places. It was a lot of work, overall, for folks to do it, but it was all just embedded practices. So, I don't think it showed up on its own. All the pieces showed up, but the CSP practice itself, the CSP program didn't show up.

Olivia Devereux: So, that goes back to 2012 when NRCS was switching to NPAD, and I feel a little uncomfortable talking about NRCS tools because I don't work for them. But, my understanding from the folks in the Boulder Colorado office was that when they switched to NPAD, they had a one year lapse where the CSP program was not put into NPAD, and I actually worked with the person at the time to make sure that happened and noticed it. So, we did have a one-year gap that we then got it back into all the years. That was just one year where CSP was not included. That was back in 2012, and more than a decade later, I keep hearing people say that enhancements aren't in there, which is part of the CSP program. It's one of NRCS' oldest and greatest programs, and we do have all of those practices. Like with every other practice, we don't have the exact wording of the enhancements, like no till to reduce tillage to reduce particulate matter, we don't have that exact wording in there. We don't use any of the NRCS practice codes for CAST. Instead, we would have one of our three tillage practices. It doesn't mean the states are not receiving the CSP program or enhancement practices. They are, and they can and do report those. So, I think there's just some misinformation on the CSP program and enhancements.

Ken Staver: I think at the end of that discussion, the conclusion was somewhere or another, everything that was being done within the CSP program was more or less being accounted for some kind of way. I thought that was how it ended.
Olivia Devereux: It's all here, and I think states are all reporting the enhancement practices. So, if a state is not, maybe they want to talk about that. But, I think they are all reporting it. I certainly give it to them all, so that's happening.
Olivia Devereux (in chat): As a follow up, EWM practice has 3 NRCS customers in the entire Chesapeake Bay watershed. That practice of Enhancement - Water Management would never be released to states for reporting to protect farmer privacy.

*Eric posed several questions to the group to prompt conversation. The discussion that ensued is captured below:*

Amanda Barber: Based on some of the comments we've been hearing, maybe it would be appropriate for each jurisdiction to sit down and talk about this. I know it doesn't have to be by jurisdiction, but it seems like each jurisdiction is different in the way they've identified the BMPs and the way that they are crosswalked. To kind of get everyone together that has ideas or thoughts within their jurisdiction to try and come up with what would be priorities and where do you think BMPs are missing, would that be an appropriate way to move ahead by jurisdiction?
Eric Hughes: Absolutely. I wouldn't discourage that. We, office staff, are certainly more than happy to work with jurisdictional representatives to determine their individual priorities. I think that's a great idea. Thank you for sharing.
Anne Coates (in chat): Great Explanation and Tool!
Elizabeth Hoffman: I was going to say I think while how we currently track and report things is left up to the jurisdictions, where we have common ground is what is available to all. So, this part actually, in my mind, feels like a collective activity. I think the most recent example is silvopasture and alley cropping. Some jurisdictions report that now. Some would love to. Some said we don't really see this happening. Either way, it's now an acceptable BMP in the model. So, in that same vein, we would try to replicate that. The first step is maybe let's revisit if there are some practices that have been left on the table. Any time they are going to be put on this table, they are available to all, and then jurisdictions can decide at the reporting level how they would go about tracking those or whatever. I think we could provide a more all-encompassing list, but a good example that I think we have in Maryland is upland wildlife habitat management. On this crosswalk, it crosswalks to a generic conservation plan credit, but I think there's an argument for that being a land conversion. It's very similar to other examples of BMPs that we currently model, either cover or other. So, that's one that comes to mind. Only in our state, we've seen sometimes an area of land might have been put in as an original NRCS code. But, through reenrollment, it becomes reenrolled as upland wildlife habitat management. So, that is not going to crosswalk the same. So, I think it's two parts. I think this part of the activity is a group activity, and then I think there are some examples like that where it's already being put on place, but it's more so how to make sure they are crosswalked more effectively like we just did with silvopasture and alley cropping.
Amanda Barber: I was just thinking it would be good to get each jurisdiction together to talk about what our concerns are and what our priorities are and certainly where there are shared priorities

among numerous jurisdictions. To me, that would be a priority for the committee. So, I don't think we're disagreeing. I think it's just sort of an interim step.

Eric Hughes: It sounds like we are saying the same thing. Maybe it's some offline work speaking with folks individually and having those conversations, sitting down and saying what are the jurisdiction wide priorities here? Then we can come back and talk in plenary. We can tackle it as a group and set priorities that way. When I think about what is outdated, what do we really have, what is accurate, and what needs to be reconsidered, that information isn't all clearly available in one place. We have resources that we've shared before like the BMP Quick Reference Guide, and others. But, there is really no one stop and shop to say here are all the possibilities for CAST, specifically. This is a different step from the crosswalk that you just saw. You know, here's how the credit for this BMP was determined. That would be something like an Expert Panel Report. So, here's the Panel report that determined this. Here's the year. This is how many years it's been since this was last considered. Would a tool like that be of use, not just to our jurisdictional reps, but to others? I am under the impression that groups like the Ag Advisory Committee may find value in these resources. Do folks feel like that would be useful to have everything in one place? To say these are the CAST ag BMPs, this is what went into developing them, this is how out of date they are. Would that be something that's useful and can kind of help us keep on track?

Robert Waring: I would say, absolutely, Eric. I appreciate that from Ag Advisory Committee's perspective.

Eric Hughes: We don't need to tackle the third question [Should the workgroup have a standard review timeline or conduct reviews on an ad hoc basis?] quite yet. I think that's a bigger question, and that can come in the future. I want you to start thinking about that, though. To this point, we've really reevaluated BMPs on an ad hoc basis. What I mean is we've traditionally said 'hey, we have some concerns about this BMP, let's take a look at this one specific practice and check it off the list'. Do folks feel like there's maybe a need to take a look at things on a more frequent basis? Standardize that process in any way? Or is it working well? It may be working well, and that's completely fine. Or, before you can answer that, you may need to see what's out there, what's out of date, and what isn't. Maybe just something to think about and to chew on here. As we present this information to you as we get it, dredge it up, and put it out there, it's something you can be prepared to answer moving forward.

Amanda Barber: I know that our credibility with the ag community is potentially damaged by the fact that there are BMPs we haven't looked at and crediting that we haven't reevaluated in 15 years. That was a comment that was made. So, I think that having some system to check and see if there is any new research periodically that would be a factor in terms of crediting in the model, I think it's important to have some sort of regular review.

Amanda Cather (in chat): Another tool could be a crosswalk of the CAST BMPs and how the jurisdictions interpret them through their QAPPs - a compilation of all the great diagrams that Olivia showed - and what practices each jurisdiction thinks might be priorities for inclusion or re-evaluation?

Elizabeth Hoffman (in chat): Was that comment related to the assigned credit duration or the ability of states to re-verify the existence of those BMPs? Those may be two separate discussions.

**Action:** AgWG staff will continue to pursue ways to create and improve reference materials and communication tools for tracking 1) ag BMPs available for crediting and 2) ag BMPs currently credited that may be in need of partnership reevaluation.

**Action:** AgWG participants are encouraged to provide feedback on priority practices for credit or reevaluation, methods for tracking credit and BMPs to review, and if the AgWG should consider a standard timeline for review of ag BMPs. Members should consider discussing priorities amongst their jurisdictions/organizations to help inform a larger conversation at a subsequent meeting. Caroline and Eric will solicit input from AgWG members.

11:05 **Satellite Remote Sensing Applications for Cover Crops – 50 minutes (presentation and discussion)**

*Dr. W. Dean Hively, U.S. Geological Survey (USGS)*

Dr. Hively previously presented to the AgWG in February of 2024 on the use of satellite remote sensing for informing conservation management of field crops. He is returning to the workgroup with a presentation focused on remote sensing of cover crops, emphasizing his work in the Chesapeake Bay Watershed. This presentation will support a broader discussion of remote sensing-based verification of agricultural BMPs.

**Discussion:**

Olivia Devereux (in chat): How do you determine if nutrients are applied to cover crops?

Dean Hively (in chat): That's challenging. You might be able to see an increase in greenness and N content in response to the fertilizer, but it's not a certain analysis by any means

Ken Staver (in chat): Wouldn't a cereal taken to harvest have a big drop in NDVI when it matured and died?

Eric Hughes (in chat): Looks like we'll go a few minutes over, but I encourage folks to head over to the CAST webinar.

Scott Heidel (in chat): Great presentation on remote sensing. I am hoping to get thoughts on remote sensing of riparian buffers/exclusion fencing and urban stormwater BMPs as we are planning to explore this at PA DEP.

Eric Hughes (in chat): We'll take a few minutes with the folks who remain to gauge interest. I share your curiosity on this point

Alex Soroka (in chat): Hey Scott, we have an ongoing project identifying urban stormwater BMPs with remote sensing, been discussing how to look at their management with greenness. Would be happy to set up a meeting with the PI(s)

Ken Staver: When you showed a field going to harvest, I would think it would show a drop off

Greg Albrecht (in chat): Dean, thanks for the update. Great work....appreciate attention to the two verification scenarios. Helpful.

Amanda Barber (in chat): Thanks Dean - your presentations are always thought provoking!

Ken Staver: My first question was just a technical one about when you showed a field going to harvest. I would think that the satellite imagery would just show a big drop off when the wheat matures and dies. My other point was, and this goes back to our Expert Panel, and you were on

it, our big failures tend to be with the aerial cover crops. I don't have data on this, but my guess is most of the failures are aerial. When you look at the data, you assume aerial wheat has a very low efficiency in the credit. It gets very low credit. A lot of people complain about it. But, when we came up with those numbers, one of the things we said was one year out of three it's a zero, it's a failure. One year out of three it's ok, and one year out of three it's really good. So, I think partly we've factored in a little bit of those failures into the actual efficiency value. So, that's the way I think. So, we aren't totally missing it on the bad aerial cover crops.

Dean Hively: That's something that I have thought about, Ken. Could we use the remote sensing to simulate the performance of the efficiency table? You see here this is one year of Maryland cover crop and aerial is on the left (the 1,000 biomass average), and Broadcast Stalkchop is also a poor performer along with it. In different years, maybe aerial does best. We could break out the aerial by after corn or after soybean. But, we could use this to simulate the efficiency tables, and you see drilled have much higher yield potential. One of the problems with teasing it all out, though, as you know, is that they're all covaried. You can say triticale is a great cover crop, but that's because it's drilled on dairy farms after corn silage and planted early with high manure content. It's also a good cover crop if you take all of that out of it. It's still a top performing cover crop, but there's a lot of covariation among the variables.

Ken Staver: I know we're out of time. So, there'd be more discussion to be had. But, I think it's all moving things forward. So, it's very good.

Kristen Hughes Evans: I did want to point out that we are finding aerial seeding with drones and combine, and cover crop seeders might be a good way to get more cover crops behind soybeans because, with drones, you can seed into soybeans when the leaves are yellow. So, even though there's a higher risk of failure because of that seed to soil contact, you could end up in some years with more acres of cover crops. So, just want to throw out that there are tradeoffs everywhere we go. If we wait until harvest, and we are harvesting soybeans up to Thanksgiving, it's really past the deadline here in a lot of states to get cover crops in the ground to get them up and going to get that fall uptake. The earlier we can plant them, the better. So, I don't want folks to rule out the aerial seeding entirely, because I do think there is a place or it in this whole crop management system.

Dean Hively: Agreed.

Dean Hively (in chat): Kristen - yes, definitely tradeoffs, which is one of the reasons MD allows seeding into early Nov to increase acreage in bad weather years. And we could do a more precise analysis of aerial interseeding with drones and tractors into corn vs soy in different years - we have the data, just not the staff time and resources to work up the analysis. But if there is interest we will

Alex Soroka (in chat): Great presentation as usual Dean!

Scott Heidel (in chat): for future remote sensing communication with PA, please use my email: scheidel@pa.gov

Eric Hughes: I just want to put this out there for folks. The Bay Program office is really keen on the idea of using remote sensing technology to, if possible, take a watershed wide approach to tracking and verifying BMPs. In theory, this would be done to really free up resources at the state level, take work off the plate of folks at the local level. We do realize there's nuance there. Doing this for one or two practices wouldn't necessarily mean that your staff or contractors would be

pulled from the field or there would be no more in-field verification. Obviously not. But, we want to really try to see if this a path worth going down. Would we be heading in the right direction if we were to pursue something like that again, fully understanding that there are some caveats there? First and foremost, what I would like to get at, and this can be some follow up afterwards and not something we discuss right now, but I want to get a sense of the full picture of remote sensing-based verification work that's happening in the watershed. I think what we are seeing is maybe different jurisdictions, different organizations, doing this work separately and working in parallel. It's all great work, but maybe just want to see if there are opportunities to align efforts and streamline and standardize. The appetite for pursuing this watershed wide tracking and verification of BMPs, I'd like to get a general sense of what folks thoughts are about this. If it's a place that we think we should be going, what are BMPs of interest? Those are the two questions that would be most helpful for us to have answered.

Greg Albrecht (in chat): NYS would be interested in that for the Chesapeake portion of the state and beyond. It would also help in better acknowledging ongoing conservation practices by farmers on their own (whether initiated by cost share programs or not).

Marel King (in chat): A resource analysis might be helpful. If local resources are freed-up because of remote sensing, how could those resources be applied -- either for verification of other BMPs or for additional implementation?

Eric Hughes: To Marel's point, maybe that is another follow up item where we can talk about some of the priorities for the states about BMP updates and what we can credit. Then also we can maybe get at some of the local resource allocation for verification of practices. I think, quite honestly, understanding what all goes into verification in terms of dollars would be very helpful, just as an aside. It would be interesting to have out there to know how much is being spent and maybe how some of that can be shifted if a watershed wide effort like this were to move forward. So, completely agree with you there. In terms of specific BMPs to consider, Scott, thank you so much for sharing in the chat. It looks like you mentioned riparian buffers, exclusion fencing, and urban stormwater BMPs. I see Alex responded saying that they have some ongoing work with urban stormwater BMPs. So, is Pennsylvania particularly interested in remote sensing-based verification of riparian buffers and exclusion fencing at the moment?

Scott Heidel: Yes, definitely, since that's kind of challenging to verify and report on, since trying to take linear feet of a meandering stream can be a weird thing to report on. So, I think remote sensing would really tighten that verification and reporting up. But, I really wanted to lend support for using remote sensing for any BMP that we can develop a methodology for to remotely sense. So, I think I heavily agree with the previous comment that if we can spend more money on implementation by shifting the focus to that, rather than on verification and reporting, I think that's just a great idea.

Eric Hughes: I love that framing, because I think that ties into another thing that's very important to us as well, and that is scaling up implementation. If we can free up resources that allow us to do that, absolutely. So, it seems like there's some buy-in here and some follow-up is necessary. A lot of great ideas shared, and very much apricate that especially 11 minutes after the scheduled end of our meeting. So, we will be in touch. Any final thoughts here on Dean's excellent presentation or on the questions that we have here on the screen?

Elizabeth Hoffman (in chat): Agree with Scott, re: remote sensing of riparian buffers/exclusion fencing. There is a need to better understand that universe of potential (where is the need for these BMPs) as well as ability to better quantify those for reporting.

Robert Waring: Certainly, Eric, Virginia is very interested as you know. We reached out, we had some discussion with Dean about a year or a year and a half ago, I think it was. So, I think across the watershed, there's probably great interest in pursuing something of this nature for verification.

Eric Hughes: Cover crops- I think that's great. I know Dean identified some limitations, but we shouldn't shy away from thinking about things maybe even in a little bit of a different way. I know Dean put out a couple of different scenarios there, a new framework, and I think it all should be explored. So, I completely agree. So a good next step could be, Bob, we all hop on a call and see what's possible in the cover crop front.

Dean Hively (in chat): I'd be happy to talk more with VA about cover crop RS. Please reach out, Bob whively@usgs.gov

Anne Coates (in chat): Agree, Bob!

Marel King (in chat): Thanks, Dean! I really appreciate the recommendations for consideration to prompt further discussion and action.

Anne Coates (in chat): Wells, we are interested too (TJSWCD, Charlottesville Virginia)

Ken Staver: What we're after is nitrate leaching, and a lot of focus on cover crop with the carbon stuff and the soil health stuff has shifted over to biomass. So, what you're detecting is biomass and above ground N content, but if we're doing a good job on nutrient management, and we have systems that don't have manure in them, cover crop growth can be pretty small and still make a significant percent reduction in leaching. So, you can have a great cover crop that reduces leaching 50% in a high N load system, whereas you can have a pretty meager cover crop that reduced leaching 80% where there's not that much nitrate there to start with. So, you have to be careful, and Dean alluded to the great cover crops that are mostly on dairies, where there's all kinds of nitrogen. If we're in a system that we're doing nutrient management the way we would hope it's done, the cover crop should be N limited. It should definitely be N limited in every scenario, except maybe in extreme drought years or something where the corn was a failure. So, I think we have to be careful with the jump from the remote sensing data to the actual thing we really care about, which is the N loss. So, reducing nitrate leaching 10 pounds is not an insignificant number. Agronomically, it's an insignificant number. It's not much of a cover crop, but it is a significant chunk of leaching on a lot of our land. 10-20 pounds per acre makes a big difference in our percent of N loss. So, that's my main caveat. Knowing where something is, is one thing. That's a yes or no thing. When we start doing these sliding scales, we're really interested in one thing, but we're really measuring something else. So, we have to make sure we have the connection clear between what we're measuring and what we really care about. What we are interested in is that N loss. We don't care what's in the cover crop really, right? We care how much it changed and what left the field. So, we have to get that connection right. Overall, I think it's all heading the right direction.

Eric Hughes: Appreciate that very much, Ken. Thank you for that consideration. I don't think it will be easy, but I think it's absolutely something that's worth exploring as technology advances and evolves, and you'll be an important part of the discussions with your expertise.

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Scott Heidel (in chat): PA is piloting remote sensing of conservation tillage BMPs, we are also interested in watershed-wide tracking, and interested in buffers, urban stormwater BMPs, and pretty much any BMP types that could be done by remote sensing verification! Thanks so much and looking forward to more on this topic!

Dean Hively (in chat): Ken you're absolutely correct. N limitation of cover crops is real, and not a poor environmental outcome

Dean Hively (in chat): Couldn't agree more.

**Action:** AgWG participants with comments or feedback on what remote sensing-based verification efforts currently exist in the watershed, the possibility of watershed-wide tracking and verification of BMPs, BMPs of interest for remote sensing, and current resource allocation for verification of practices should reach out to Eric Hughes (Hughes.Eric@epa.gov) and Caroline Kleis (Kleis.Caroline@epa.gov). Caroline and Eric will solicit input from AgWG members.

## Wrap-up

11:55 **New Business, Announcements & Updates**

- **Soliciting nominations for Vice Chair and at-large members**
  - Eric Hughes (in chat): Soliciting nominations for Vice Chair and at-large members: we will be sending our annual nomination request message in early October. Note that we have six at-large members on expiring terms (see Coordinator Updates slides for their names). Caitlin will be transitioning to Chair, so we will also be searching for a new Vice Chair. Please send Caroline and I any recommended names (with the consent of the nominees, of course!)
  - **Action:** Caroline Kleis, AgWG Staffer, will email a call for nominations for at-large membership and Vice Chair to the group in early October. Those who wish to nominate or self-nominate should contact Caroline Kleis (Kleis. Caroline@epa.gov) and Eric Hughes (Hughes.Eric@epa.gov).

- **November/December Meeting Dates**
  - Since many AgWG members will be participating in the Bay in the Balance conference (additional details below), an in-person/virtual AgWG meeting will be hosted on the afternoon of December 10th after the end of Bay in the Balance, in lieu of the workgroup's December meeting originally scheduled for 12/18. The December meeting invitation has been updated to reflect the change, and additional details will be made available to the group closer to the meeting date.
  - Given the December hybrid AgWG meeting following the Bay in the Balance Conference and the proximity to the Thanksgiving holiday, the November AgWG meeting has been CANCELED.

- **CAST Webinar "Modeling BMP Effectiveness at the Farm Scale,"**
  - This webinar took place on Thursday, September 18 at 12-1pm
  - Guest presenter, Marcie Dunn, shared her experience using NRCS planning tools — Conservation Desktop and the Conservation Assessment and Ranking Tool (CART) — to identify, prioritize, and evaluate on-farm conservation practices. Marcie walked

through a real-world project example to show how these tools support decision-making and demonstrate the benefits of conservation efforts at the farm scale. Following Marcie's presentation, the CAST Team introduced the Farm Scale Pollutant Load Analysis Field Guide as an alternative approach that anyone can use with publicly available CAST data to estimate both water quality and carbon reduction benefits of BMPs. View the recording here.

- **2025 NFWF Chesapeake Agricultural Networking Forum**
  - Check out the latest information on the Forum, including a draft agenda, by visiting the **2025 CANF landing page**. This website will be updated with additional details as the Forum approaches.
  - **Register to secure your spot.** In order to secure your spot for this space-limited event, **you must register by completing the registration form no later than September 22, 2025**. There's no cost to register.
  - **Book your room.** Lodging can be reserved directly through Hershey Lodge, and **rooms must also be reserved by September 22, 2025** to secure discounted room rates.
- **Bay in the Balance 2025 Conference**
  - This event will take place **December 8-10** at the Wyndham Conference Center and Hotel in Gettysburg. For more information on the event and to register, please visit the following site.
  - Please note: Given that many AgWG members will be participating in this conference, AgWG leadership intends to schedule an in-person AgWG meeting on the afternoon of December 10th after the end of Bay in the Balance, in lieu of the workgroup's December meeting currently scheduled for 12/18.
- **University of Maryland Harry R. Hughes Center for Agro-Ecology Call for Research Pre-Proposals**
  - The Harry R. Hughes Center for Agro-Ecology is soliciting research pre-proposals to address agriculture and food systems, land use, soil and water quality, and forest health and forestry. To view the full request for proposals, click here. For more information about the Harry R. Hughes Center, visit their website.
  - Proposals are due Tuesday, Oct 21, 2025, to hughescenter@umd.edu.
- **Chesapeake Bay Program Press Release: Chesapeake Bay Water Quality Shows Mixed Results**
  - The Chesapeake Bay Program recently released a press release on the latest Chesapeake Bay Water Quality data. The press release also shared the latest information on the amount of pollutants and their long-and-short-term trends entering our waterways, as observed through the non-tidal network monitoring system and River Input Monitoring stations throughout the watershed.
  - Additional information and data are accessible through the press release and on ChesapeakeProgress.
- **WQGIT Phase 7 Office Hours Recordings**
  - Recordings from the August 15th, August 18th, and September 15th office hours are posted. These and future office hour recordings will be linked on the respective

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calendar pages, CAST model documentation page, and Phase 7 project page. You can view them now if you were unable to attend the sessions:

- August 15: BMP Excess, Land Use Loading Rate Ratios
- August 18: Back-Cast Overview, Land Use aggregation, CAST Land Uses
- September 15: Exfiltration method, Septic/Sewer Model, SSO Loads, Boat Pump-Outs
- Office hours notes are available here: https://www.chesapeakebay.net/files/documents/WQGIT-P7-Office-Hours-QA-Recap_Aug-Sep-2025.pdf

12:00 **Adjourn**

## Next Meeting: **Thursday, October 16th, 10:00AM-12:00PM**

## Participants:

Kathy Brasier, PSU
Caitlin Grady, GWU
Eric Hughes, EPA
Caroline Kleis, CRC
Auston Smith, EPA
Olivia Devereux, Devereux Consulting
Anne Coates, TJSWC
Greg Albrecht, NY Dept of Ag & Markets
John Lancaster, PA DEP
Tom Butler, EPA
Bob Waring, AAC Vice Chair/ Colonial Soil and Water Conservation District
Cassie Davis, NYS DEC
Amanda Barber, NY Cortland County SWCD
Leah Bittenger, WVCA
Scott Heidel, PA DEP
Brady Seeley, PA DEP
Krista Crone, PA DEP
Caroline Harper, Campbell Foundation
Hunter Landis, VA DCR
Jenna Schueler, CBF
Grant Gulibon, PA Farm Bureau
Kristen Saacke Blunk, Headwaters LLC
Enrique Hernandez, VT
Natasha Rathlev, Sustainable Chesapeake
Alex Echols, Campbell Foundation
Alex Soroka, USGS
Jessica Shippen, TJSWCD
Alex Gunnerson, Arlluk/CBPO
Kate Bresaw, PA DEP
Dave Graybill, PA Farm Bureau
Nick Hepfl, HRG
Helen Smith, Devereux Consulting
Christi Hicks, USDA NRCS
Denise Uzupis, PDA
Rory Maguire, VT
Emily Heller, EPA
Elizabeth Hoffman, MDA
Kristen Hughes Evans, Sustainable Chesapeake
Marel King, CBC
Jeremy Hanson, CRC
Amanda Cather, AFT
Erin Sonnenburg, CRC
Ken Staver, UMD Wye
Ashley Hullinger, PA DEP
Dean Hively, USGS
Anne Coates, TJSWCD
Bailey Robertory, MD DNR
Seth Mullins, VA DCR
Benjamin Heavner, WVCA

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## 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
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