

**Chesapeake Bay Program**  
**Watershed Technical Workgroup (WTWG)**

**Meeting Minutes**

Thursday, February 6th, 2025

10:00 AM to 10:50 AM

[Meeting Materials](#)

**Summary of Actions and Decisions**

**Action:** If you have nominations for or are interested in the open WTWG chair position, please email Caroline Kleis, CRC ([kleis.caroline@epa.gov](mailto:kleis.caroline@epa.gov)), and Auston Smith, EPA ([smith.auston@epa.gov](mailto:smith.auston@epa.gov)).

**Action:** Please reach out to Auston if you have any questions or concerns with the progress schedule or recent email communications.

**Action:** Please send relevant point or polygon data to Peter Claggett ([pclaggett@chesapeakebay.net](mailto:pclaggett@chesapeakebay.net)) for your jurisdiction.

**Action:** Alicia Ritzenthaler and Peter Claggett will set up a time to meet for a follow up conversation on DC's construction acres.

**Action:** Jess Rigelman will send Peter Claggett state points of contact for additional follow up on construction acres. Peter will send an email with pointed questions for the identified state points of contact.

**Action:** Peter will bring the discussion of construction to the WQGIT for consideration at their next meeting. Peter will then return to a subsequent WTWG meeting for an update.

**Action:** Auston will work with WQGIT leadership to get the topic of construction on the next WQGIT agenda as soon as possible.

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**Meeting Minutes**

10:00 **Introductions and Announcements** – Auston Smith, EPA (15 min).

- Approval of [December Meeting Minutes](#).
  - The approval of December meeting minutes will take place at next month's meeting.
- Call for WTWG Chair – WTWG Leadership
  - **Action:** If you have nominations for or are interested in the open WTWG chair position, please email Caroline Kleis, CRC ([kleis.caroline@epa.gov](mailto:kleis.caroline@epa.gov)), and Auston Smith, EPA ([smith.auston@epa.gov](mailto:smith.auston@epa.gov)).
- Update on Forest Harvesting Practices BMP Vote and Technical Appendix
  - The voting process for the approval of the forest harvesting BMP took place via email. That vote passed, and the adjustment has since been approved following the confirmation at the January WQGIT.
- Other announcements?
  - CAST Webinar
    - Last month's CAST webinar covered modeling conservation and is available now. The next webinar will talk about the ecosystem benefits browser and how you can use that to identify other ecosystem and habitat benefits that go along with some of the CAST BMPs.
    - [Olivia Devereux \(in chat\):](#)  
<https://cast.chesapeakebay.net/Learning/FreeTrainingVideos>

- **Helen (in chat):** The recording is under Develop a Plan, Modeling Conservation
- PA DEP/ Resolve Hydro Remote Sensing Work
  - Auston Smith, EPA, gave an update on the work being done by PA DEP and Resolve Hydro to present and approve the adjusted methodology for collecting four different categories of tillage using remote sensing. This project consists of two primary documents that are being discussed at the AgWG- the model development report and an associated methodology. This methodology defines a general workflow and operating procedure that can be adopted ideally by any jurisdiction seeking to implement this. The model development report outlines the modeling choices made to create this tool that uses satellite data as an input and generates pixel level estimates of conservation tillage as an output. These conversations have been going on at the AgWG, and Auston encouraged interested WTWG members to join in on these conversations as they get to their final stages in April and May. While this is a revised methodology for input to the CAST model, the actual data input to the model would not be really different from the existing data sets on tillage. So, it does not require formal vote before it goes to the WQGIT for final confirmation of understanding.

**10:15 Progress Schedule and Verification Calls Update – Auston Smith, EPA (15 min).**

Auston Smith, EPA, gave the group a reminder of the upcoming due dates for the 2024 progress schedule. The targeted deadline for BMP submissions is February 7<sup>th</sup> and February 10<sup>th</sup> for QAPP updates. Outstanding final questions and comments are working to be addressed. Although there was a NRCS data inconsistency that caused a delay, Auston is hopeful they can stick with the same release date as last year. This timeline allowed for the final progress scenario to be released in early May. Teams should have received an email from Auston late last week listing any remaining items on their list if there were any.

**Action:** Please reach out to Auston if you have any questions or concerns with the progress schedule or recent email communications.

**10:30 Update from Land Use Data Team - Peter Claggett, USGS (15 min).**

Peter Claggett, USGS, gave a presentation to the WTWG focusing on the construction land use. Time was left for members to ask questions and engage in discussion.

**Discussion:**

**Norm Goulet:** Depending upon what you are actually trying to map, we probably need a different approach. If you're trying to map barren soil, then that's what we need to call it. We don't need to call it construction, because there are many reasons why we have barren soil. You just showed a good example in Pennsylvania. It's some kind of facility where they just didn't pave it, and they've left it barren, and that's what it is. You had sod farming, the sod gets pulled up, and it's bare dirt for quite a while until receding takes effect. Then we have pure construction where we're talking about moving it from some form to an urban development. So, you've got this whole mismatch of things going on. If ultimately what we are trying to get to is that increased in sediment loading because of barren soil, then let's just map barren soil and stop trying bring development into this, because it could be for a variety of different reasons.

**Bill Keeling:** Along what Norm was saying, if you are looking at just barren related to construction, you would be eliminating every site that already had a building on it. Those sites

may not have anything to do with a permit is what I was getting at. So, comparing it to permitted acres is not appropriate. To Norm's point, barren may be barren, but a sand beach is barren, and it responds differently than tilled or where bulldozers have been moving land. Barren is not always barren is what I am saying. There was a little bit of apples to oranges in your comparison.

**Peter Claggett:** I understand that, and that was one of my points that I was trying to make. It is a little bit of apples to oranges. The question is, for nutrient and sediment loading purposes, what do we want? Apples or oranges? Let's just say we pick apples. What should count as an apple? What shouldn't count as an apple in terms of bare ground on the landscape? Obviously if it is cropland and it's bare in the spring and bare in the fall, that's not what we are talking about. We've already done our best to try and eliminate that. Post 2017, we have 10-meter Sentinel data as part of the EPA agreement with the Conservancy. We will have monthly spectral indices from Landsat and Sentinel that we can integrate into the classification to look at that seasonality of barren for different areas. There are ways that we can refine it. But what first needs to happen is some group needs to articulate what it actually is that we should be mapping.

**Ruth Cassilly (in chat):** we also need a domain for which to apply post construction BMPs- how will we get that if we map all bare soil?

**Alicia Ritzenthaler:** This is a really timely conversation as it relates to DOEE in the district because we've been talking internally about revising how we estimate our construction acres for Phase 7 independently of this conversation. I wasn't aware that you were also thinking about this. Obviously, our construction sites and our barren land looks a lot different in the district than the places you were showing in Pennsylvania, because we don't have those barren land places in the district. Even our construction sites are not going to probably appear barren on a satellite image simply because everything here is so much denser than it is in many parts of the Bay Watershed. I am very interested in considering how we think about estimating construction acres and maybe, Peter, you and I can set up some time to sort of talk offline and dig a little deeper into what you're doing, and I'll share what our thought processes are in DC and some of the more urban versus rural considerations. I want to make sure that, if we do some sort of Bay-wide estimate based on remote sensing or that 30% increase, that it is also reasonable for a very urban area. I know sometimes when we are generating an estimate for across the Bay, the district is just so different than other pockets of the Bay. We're a bit of an outlier. I just wanted to start that conversation and, Peter, I'll follow up with you afterwards because I do think it would make sense for you and I to at least have a little bit of a deeper conversation. I would be in favor of somehow automating it with remote sensing. I'm all for streamlining our effort. We've been trying to think about how to revise it anyways.

**Norm Goulet:** Peter asked for polygon data. I don't know how many jurisdictions are going to be able to give you polygon data for land disturbance area. You're going to need to pull the states individually, but I really doubt you are going to be able to get that.

**Peter Claggett:** Even point data would be helpful because, hopefully, we will be able to see in our data the barren area close to the point, depending on the accuracy of the point.

**Bill Keeling:** Was regulated construction part of the WLA in the TMDL? If so, then there's allocation issues that need to be considered beyond just whether you map it, right?

**Peter Claggett:** It is a waste load allocation, and it's not a load allocation. So, I think that's what you mean, right?

**Alicia Ritzenthaler (in chat):** Oh yeah, we know where construction is happening - we could probably provide points but I'm not immediately sure we'd have realistic polygons.

**Norm Goulet:** That brings us back to the inherent problem we always have of having a waste load allocation within the LA area.

**Peter Claggett:** Ruth put in the chat that we need a domain to apply the construction BMPs and, yeah, we do. If the remotely sensed data does a good job at capturing what's actually disturbed

and actually captures a lot more than that in some cases, then there's still a big universe to put BMPs on. You're not going to be covering all the area because some of the areas are just people leaving their land bare for whatever reason. The physics of it is that those lands are still contributing sediment because it's exposed soil. So, it probably should be treated as a higher load land use than some of the other Phase 7 land uses. There are issues where we've got, like in Berkeley County, significantly more acreage reported as construction than we possibly see in our map. We can't solve that problem here, but we need to delve into it and figure out what's going on. Maybe the reporting is overestimating the domain or maybe there's something without mapping that we're missing and should be capturing. I hope you all want to pursue this and, if you want to just keep it the way it was in Phase 6, then that's a decision that you all can make and suggest that to the WQGIT. From my chair, looking at the land use data, there's some good information here and it should at least be considered and examined before it is dismissed.

**Olivia Devereux (in chat):** *Construction* is a WLA, as are

Feeding Space
Pervious Developed
Impervious Developed
Wastewater
Combined Sewer Overflow

**Samuel Canfield (in chat):** We could also potentially provide point data.

**Bill Keeling:** The permitted animal operation feeding space, I believe, is WLA and the TMDL.

**Norm Goulet:** Anything with a permit, Bill, will be in the WLA.

**Bill Keeling:** Regardless of whether it discharges or not?

**Norm Goulet:** Yes. If it's got a permit, it's in the regulated arena. This is the rabbit hole we've been going down every time we talk about this subject all the way back to Phase 3, Phase 4. I'll go back to my prior comment that I think what we should be looking at here is barren soil. We tried to make a subset of barren soil regulated construction, but Peter's numbers aren't matching up. Could it be something like a phase construction problem? There could be a variety of different reasons why your numbers aren't matching up and you are overestimating in one area based off of permit information. So, I think the better question to ask anybody, whether it be us or the WQGIT, is what exactly are we trying to map here? What exact information do we need to try to acquire and for what reason? If we are trying to estimate a load from that barren soil, then we probably should be mapping and probably trying to forget about the whole aspect of is it regulate, developed, or not?

**Peter Claggett:** The two things that probably come to your mind most in terms of confusion would be agriculture that is seasonally bare and beaches. We have a separate class called Bare Shore for beaches for the ring around the tub of lakes, mud flats, etc., those fall under bare. So, I don't think we'll have much confusion there. There's even some bare shore along the river margins, with the riparian area. But, as I said, we've done a lot of work to try to tease out agriculture using the cropland data layer and other sources to prevent confusion there. Not to say that you're not going to find some on the map, but we've really worked hard to reduce confusion with those types of other bare areas.

**Bill Keeling:** Does that include bedrock or talus fields?

**Peter Claggett:** Those would probably show up as perhaps our bare construction, or perhaps extractive. We have an extractive mapped class now. So, there could be some confusion there.

**Norm Goulet:** I would think you would be able to tease that out just by looking at topo information.

**Peter Claggett:** If you start saying my concern is confusion with X,Y,Z, we'll try to reduce that confusion and at least examine it. If you say we don't want confusion with those things, what we

want is inclusion of these types of things, that is the guidance we need to do some analysis and come back and say here's the best we can do in the time frame.

**Bill Keeling:** Temporally, you are talking roughly 2012 to present?

**Peter Claggett:** Yes, I am. Sarah McDonald on our team is working on a back cast. So, in a sense, deconstructing the landscape back to the 80s. To what degree that can address these issues, let's start with the present time frame and figure that out.

**Bill Keeling:** The difference between 2012 and 2013, where do you have exposed ground that wasn't in 2012 that is in 2013? Instead of looking at all bare ground, look at the change from year to year and whether that can be associated with construction.

**Peter Claggett:** That is something that we just started discussing this week- looking at persistent barren versus ephemeral barren. I think that is something we could look at, Bill. I think that's a good suggestion.

**Norm Goulet:** Peter, I would suggest a very poignant question be put before the Water Quality GIT. What information are they trying to actually achieve in this process? As usual, we go down this rabbit hole, and I don't think we've ever answered that question. I think the goal was to try to get at multiple issues, and we're not getting at any of the issues.

**Samuel Canfield (in chat):** Have you tried using post-construction BMPs as a point to look back at areas that were previously disturbed?

**Olivia Devereux (in chat):** In the TMDL, the aggregate wasteload allocation includes loads from MS4s, construction general permits, and industrial stormwater permits where the state did not provide enough information to distinguish MS4 from industrial stormwater loads in an MS4 jurisdictions.

**Olivia Devereux:** One of the concerns that our partners have talked about for many years is that there is an excess in terms of BMP crediting, and it's because the land use is wrong. We've always got these complaints and the whole partnership has greatly improved the land use thanks to Peter and his team over the years. Especially with this 1M mapping, there are so many options now which is why Peter has 96 classes. I wanted to mention that this is related to the Bay TMDL of 2010 and, like all TMDLs, it has a load allocation and a waste load allocation. It is important to keep our load sources or land uses separate for those that are in the WLA versus the LA. In the cases where we have not been able to do that, it has been enormously confusing like with the industrial permits where people don't know which land use it is in. Construction is a WLA, so we do need to keep that separate from the other barren land, because it holds true to the TMDL. That is my understanding, and we just need to make sure we keep it clear for TMDL purposes regardless of what's mappable and what makes sense for BMP reporting. For the TMDL, the two need to be distinct. I just want to raise that point.

**Auston Smith:** We've kind of got an internal deadline, as some people have seen on the Phase 7 timeline, of the end of September for a lot of these major decisions. So, what I am hearing from the group is that either at next month's WTWG or later this month at the WQGIT, maybe we have a follow up where you give this same series of questions and comments to the WQGIT?

**Peter Claggett:** On my to do list, Alicia and I are going to have a follow up conversation. Sam Canfield says he has some point data to share, so we can start looking at that. I like Norm's suggestion about going to the WQGIT and asking them what do they want to map? What's important and why? If you all feel like I should come back to you before going to the WQGIT, I'll do it, but if you are like just go ahead and let's get the WQGIT to weigh in as we kind of work in parallel, that's fine. That's what I need to know.

**Alicia Ritzenthaler (in chat):** My email is [alicia.ritzenthaler@dc.gov](mailto:alicia.ritzenthaler@dc.gov)

**Bill Keeling:** One of Peter's questions is do we remote sense this or not? We should be aware there is a way of doing this without remote sensing it. We could use the WLA and determine percentages and land area needed to produce that load and calculate the acres needed.

**Peter Claggett:** Ok. I might need to follow up with you to make sure I understand exactly what you are suggesting.

**Bill Keeling:** Well, we have an estimated load per acre of this type of land use because a load allocation allows a certain amount of load to be present. At least that amount needs to be present. Based on that, you could calculate how many acres. Each state has a load that would relate to a number of acres they would be allowed to have.

**Norm Goulet:** I think we are mixing and matching again. When the WLA was established, it was just a snapshot in time, I project, of what construction acres was going on. Construction is very temporal. It varies substantially through time. God knows if we're in a situation now where we've got more construction than when the WLA was set, or less construction. So, if we're in a situation where we've got more, you're essentially saying at that point then we can't go forward with the construction because we'll be exceeding the WLA for regulated construction.

**Bill Keeling:** I was just pointing out it doesn't always have to be remote sensed. There may be a way to back check. All I am saying is somewhere in there, you've got to make sure that waste load allocation is available at a minimum.

**Alicia Ritzenthaler:** This is Alicia at DOEE. For what it's worth, those types of things that we're considering using for estimating construction acres is things like averaging over, say, like a five-year period trends in soil and erosion control permits that are put in with the district, looking at development trends and plans for the district as a whole. We're not looking at probably moving to any single snapshot on a year-to-year basis, because those numbers would probably dramatically vary. So, when we're thinking about estimating construction, we're thinking about either normalizing it or averaging it over some period of time, like a five-year period.

**Bill Keeling:** Virginia does similar. We assume a certain percentage of the land over the permit period in any given year would be disturbed, not necessarily entirely available, based on programmatic input and experience.

**Olivia Devereux:** I'm not sure that all the states are reporting construction in the same way. Whatever happens with Peter's larger question, the reporting needs to be consistent of the acres if that's the direction we go instead of remote sensing. For example, with poultry houses, sometimes the NOIs for the entire associated farm field and house, and sometimes it's just for the house, that's not consistent. It's a huge acreage difference, a whole farm field versus just the area of a poultry house. Then some states may be averaging over multiple years, and other states may be reporting just the acres of the NOI in a year. Whatever we decide, if it's not going to be remote sensed, it needs to be consistent if it's reported and we probably need to just develop some clear definitions and expectations for what's reported if we go that direction.

**Peter Claggett:** Do you all know who is reporting? Is there a designated person for each jurisdiction for reporting construction acres?

**Jess Rigelman:** Yes, I get the data from one person in the state every year. It's up to them to collect it. Bill is the Virginia person; Sam is the West Virginia person. I have on point of contact that usually sends me the data.

**Peter Claggett:** Maybe we could have all of them as a starting point to address this issue of consistency. Unless Jess and Olivia know exactly what's being reported now, we could have "homework" for the state designated folks who are doing the reporting to explain what it is they're reporting and what assumptions go into that.

**Jess Rigelman:** I think that would be a valid exercise. Part of why my hand was raised was similar to what Olivia was saying, but what Bill said. It's an estimate over the years based on total acreage, but that assumes construction acres. So, back to Norm's point of is this going to be barren land or is it only going to be construction? If we are getting an estimate or a percentage of the construction acres, that won't be the case if the land use isn't solely construction, if it's barren like your example, just that dirt field.

**Peter Claggett:** Jess, if you could send me those contact names then I will follow up with them with an email asking some pointed questions. I might coordinate those questions with you and Olivia, so we can document that as part of this investigative process of what is the consistency across jurisdictions that do report construction? I think that would help.

**Bill Keeling:** The Virginia process is documented in our QAPP and has been for several years now, so avail yourself with that.

**Auston Smith:** I can send you that, Peter.

**Olivia Devereux:** Ruth can probably summarize them all because she's gone deep into all of them, and I find her to be very helpful.

**Ruth Cassilly:** I am here, and I'll be happy to help you.

**Scott Heidel (in chat):** Please include me and Tyler on any communication on this

**Samuel Canfield:** I was thinking about if you could some way use post construction BMP data that states report and target a locality or a county and compare. It looks like there's a lag time by the time that post construction BMPs are implemented. If you look back so far, maybe you could identify how much construction is within that county associated with those BMPs, compare that to what was reported for those counties, and compare those to see how closely what you are sensing related to what is reported for that. So, using the post construction BMPs as a targeting source in that way.

**Norm Goulet:** Samuel, the problem with that method is that post construction BMPs don't always reflect how much was disturbed. There is the pre-construction BMPs and there's the post construction BMPs. In many instances with pre-construction, some of them will just go away because of what happens with the final design build and those other pre-construction are converted to post-construction, so I think it'd be problematic to use post-construction BMPs to figure out how much land was disturbed.

**Samuel Canfield:** The post construction are supposed to have some amount of contributing drainage area associated with them, right? That is what the jurisdictions are supposed to report to the Bay. So, it would at least be a value that could be associated with that and that contributing drainage area may not be wholly representative of all the area disturbance. However, you could see a percentage of difference between what is measured in a year before via the remote sensing, compared to what is reported, and see that error there, right? To at least get a grounds of in this locality or in this specific situation, this error is occurring that we are seeing and maybe whenever you consider the whole of all the counties within each jurisdiction, that may be partly why we are seeing that great difference in reported versus sensed. Just some metric there to look at comparing some of the data.

**Norm Goulet:** Why not report just the disturbed acres? At least in Virginia, any development project is going to be having a permit for the disturbed acreage. Why aren't we just reporting that?

**Samuel Canfield:** I think the construction acres that are being reported likely does reflect that, but I am not sure if there could be a difference between that and the BMPs that are submitted afterwards. There may be some differences there in the reporting. I'm not totally sure.

**Alicia Ritzenthaler:** In the District, we use a little bit of both because we use the post construction information in our database to confirm that the project has been closed out and that it's no longer an active construction site. So, we use those two bits of information together.

**Norm Goulet:** That gets back to the question of exactly what we are looking for. If we're looking for barren soil, then that post construction data is of limited usage because, at that point, it's post construction. The disturbances have been stabilized.

**Alicia Ritzenthaler:** In the District, we don't really have barren land, though, so we're only thinking about construction in my jurisdiction.

**Peter Claggett:** I think there's an interesting thing here, too. If in the district you are building a new building and there's a giant hole in the ground and it's developed all around you, should that be treated the same way as forest that's cleared and left bare for months on end as a subdivision solely develops? That seems like two very different things.

**Alicia Ritzenthaler:** I agree which is why I said that I was hoping that if we were looking at a Baywide remote sensing strategy, that we just make sure that it applied appropriately to both urban and non-urban areas. I agree; I think it does look a lot different actually on the ground.

**Auston Smith:** Are there any other questions or comments on this subject? Peter, I think taking these considerations along with any other additional analysis you might be able to do this month to the WQGIT to usher this conversation would be great. We can certainly have time on the agenda here at the WTWG meeting next month if you are amenable.

**Scott Heidel (in chat):** PA supports remote sensing, but it should be mentioned that we calibrate our remote sensing machine learning model with field verification. It seems this needs to be calibrated and that the calibration process needs to be thought out as a foundational step, first.

**Peter Claggett:** What I am sensing is that no one's alarmed if I go to the WQGIT sooner rather than later to give them a heads up and get them to weigh in. That seems like that would be fine, but then also coming back to this group on the more technical aspects. Maybe I should pose that as a question. Can I go to the WQGIT whenever and get them to weigh in on the big question of what it is we're trying to do here? It seems like getting that information sooner rather than later would be good, because that's going to direct us on how we go about this.

**Norm Goulet (in chat):** Much sooner rather than later.

**Bill Keeling:** I would preface it that you came to us and there were a lot of questions and that's why their guidance is needed.

**Peter Claggett:** Good point, thanks.

**Norm Goulet:** Auston, you may want to have a conversation with Jeremy and let them know that this is somewhat time sensitive and that we need to squeeze it into this month's GIT.

**Auston Smith:** Absolutely. It's on my to-do list already. Thanks a lot, Norm. It's crucial.

**Peter Claggett (in chat):** Scott- we're also transitioning to machine learning techniques for our 2025/26 data.

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10:45 **Recap of Actions and Decisions** (5 min).

10:50 **Adjourn**

**Next Meeting:** Thursday, March 6, 2025 from 10:00 AM – 12:00 PM.

### Participants



Auston Smith, EPA  
Caroline Kleis, CRC  
Megan Thyng, EPA  
Bill Keeling, VA DEQ  
Samuel Canfield, WV DEP  
Olivia Devereux, Devereux Consulting  
Arianna Johns, VA DEQ  
Jeff Sweeney, EPA  
Mark Dubin, UMD/CBPO  
Joseph Schell, DNREC  
Joshua Glace, Larson Design Group  
Christina Lyerly, MDE  
Bailey Robertory, MD DNR  
Tyler Trostle, PA DEP

Matt Kofroth, LCCD  
Jess Rigelman, J7 Consulting  
Scott Heidel, PA DEP  
Sabine Miller, MDE  
Alicia Ritzenthaler, DOEE  
Ruth Cassilly, UMD/CBPO  
Eugenia Hart, Tetra Tech  
Norm Goulet, NVRC  
Peter Claggett, USGS  
Caitlin Bolton, MWCOCG  
Fernando Pasquel, Arcadis  
Jackie Pickford, USGS  
Eric Hughes, EPA

### **Acronym List**

BMP: Best Management Practice  
CBP: Chesapeake Bay Program  
EPA: [US] Environmental Protection Agency  
NRCS: [USDA] Natural Resource Conservation Service  
TA: Technical Appendix  
USDA: United States Department of Agriculture  
WTWG: Watershed Technical Workgroup