



**Chesapeake Bay Program**  
**Watershed Technical Workgroup (WTWG)**  
**Conference Call**  
Thursday, July 19  
10:00 AM – 12:30 PM  
Calendar Page: [Link](#)

## **Call Summary**

### Summary of Actions and Decisions

**Action:** Model scenarios will be run to assess the impacts to calibration of extending forest buffer lifespans. Results will be shared with the WTWG prior to the next WTWG meeting. [Post-meeting update: The deadline for this task and the assessment will be extended to the beginning of the next Milestone period when changes could be allowed for BMPs credited during the model's calibration period.]

**Decision:** The WTWG approved the June 7 meeting minutes

**Action:** Norm Goulet and Bill Keeling will revise the credit for conservation landscaping proposal to halve reductions for nitrogen and phosphorus. The revisions to reduction credits will be presented to the WQGIT on July 23.

**Decision:** The workgroup approved the revised conservation landscaping proposal for informational presentation to the WQGIT on July 23. The revisions will include reductions of the credit estimates by half from the current estimated nitrogen and phosphorus credits.

**Action:** An example of reporting practices for the conservation landscaping BMP will be included as an additional appendix in the crediting proposal.

**Decision:** The workgroup approved the interim ditch bioreactors practice proposal for informational presentation to the WQGIT on July 23.

**Action:** The WTWG will discuss how saturated buffers function and whether all practices can be combined in a single acre of agricultural land.

**Action:** WTWG members are encouraged to contact Loretta Collins with any questions.  
([lcollins@chesapeakebay.net](mailto:lcollins@chesapeakebay.net))

**Decision:** The workgroup approved the technical appendix for the saturated buffers interim BMP will be presented to the WQGIT for informational purposes only at the July 23 WQGIT call.

**Decision:** The workgroup approved the Onsite Wastewater Treatment System interim BMP for informational presentation to the WQGIT on July 23.

**Action:** The WTWG will discuss NEIEN appendix revisions and schema at an upcoming WTWG call.

**Action:** For the BMPs that are being submitted to the WQGIT for approval, WTWG members are asked to reach out to their jurisdictional WQGIT reps to brief them before Monday's call.

**Action:** The WWTWG and Modeling Workgroup will review the identified questions in the Boat Pump-Out technical appendix in order to finalize technical considerations for inclusion of boat pump-out in the modeling tools.

**Decision:** The workgroup approved the Boat Pump-Out interim BMP for informational presentation to the WQGIT on July 23.

**Action:** Jeff Sweeney and Allie Wagner will contact one or more WTWG members for interest in volunteering on the Animal Mortality BMP expert panel.

**Action:** Jeff Sweeney and Allie Wagner will reach out to WTWG membership and frequent call participants to update WTWG membership roles.

**Action:** Discussion of BMP crediting reports will take place at an upcoming WTWG call.

10:00 AM      **Introductions and Announcements:** Jeff Sweeney, EPA CBPO

*Decision Requested:* Approval of June 7 Meeting Minutes

- Ted Tesler is not on today's call; Jeff Sweeney will run the call.
- Michelle Williams is staffing today's call for Allie Wagner
- There is a concurrent AgWG call today, so Jeff Sweeney will present the Agricultural Denitrifying Bioreactors and Saturated Buffers for Loretta Collins.
- Bill Keeling asked about the previous WTWG meeting discussion of possible impacts to calibration and extending lifespan of forest buffers.
  - Jess Rigelman: We will get results run and sent out before the next meeting.
  - Need acknowledgement that we discussed at the meeting
  - Sweeney: This was about possibly changing the credit lifespan for forest buffers, discussed with Sally Claggett at the June WTWG meeting. We will cover this in detail at an upcoming meeting.
- Jeff Sweeney: We are not going over details for interim BMPs, just approving to include in the model for planning purposes, and to go to WQGIT for informational purposes July 23. We have an August 31 deadline for WQGIT approval to include these interim BMPs for planning purposes. These can be used in implementation plans but will not get credit for progress.

**Action:** Model scenarios will be run to assess the impacts to calibration of extending forest buffer lifespans. Results will be shared with the WTWG prior to the next WTWG meeting.

**Decision:** The WTWG approved the June 7 meeting minutes

10:10 AM      **Conservation Landscaping Interim BMP --** David Wood, CSN

David and Jeff presented the technical appendix for the conservation landscaping interim BMP to the workgroup.

*Decision Requested:* Approval of the interim BMP to move forward to the WQGIT

The conservation landscaping crediting proposal was discussed at March USWG meeting, and approved by USWG in April. VA and DC helped develop the proposal. This BMP is an actively managed practice as a perennial meadow. Landscaping areas must be depressed, and site must be prepared to hold rainfall and treat runoff. This is an efficiency BMP for N and P. Considered under homeowner conservation practices umbrella. BMPs can be reported in aggregate (for instance at county scale).

- Greg Sandi: How is this different than the rain garden practices?
  - David Wood: The treatment mechanisms are a little bit different. This has different soil amendments, and is considered a perennial meadow due to the difference in subsurface soil conditions. You're not using treatment curves, just an efficiency reduction. This is more similar to managed turf grass.
- Bill Keeling: I have some concerns about the specifics of crediting. I also want to know if we can consider other options than just the meadow conditions? If there are other practices that are different from this practice, can we still consider those as other practices?
  - Norm Goulet: I would encourage you to contact the stormwater staff at VA to make sure that you and they are communicating on practices for Urban Stormwater. We can't ourselves reach out to everyone.
- Keeling: I don't know about this being considered an efficiency, in going from turf to mixed open it seems like this should be a land use change.
  - Wood: We wanted to go that way initially, but land use changes would involve a large sediment load increase, which we know is not the case. This is because mixed open is a catch-all for a lot of different land uses including things like mine lands. We decided to calculate this as an efficiency to avoid the increases in sediment loads because we know in reality that sediment loads will not be increasing with this practice.
  - Sweeney: I agree, mixed open is a hodge-podge of things.
- Keeling: We want to include this in our planning, and we are concerned in VA because the efficiency is so high. If the panel recommends a different efficiency that is lower, we are concerned that may impact our planning if the reductions end up being approved later as lower than they are now. Can we err on the side of caution and go for a lower reduction here in case the efficiencies are lower than proposed here?
  - Jeff Sweeney agreed: That is a good point, and that's the reason that we usually ask the experts and group be conservative when making these estimates for interim BMPs.
  - Goulet: that's a good point. We had a conversation with Mr. Johnson on this topic, not this BMP but related issues. We did not discuss at USWG but we have seen similar issues with other interim BMPs. We could cut this efficiency in half to be on the cautious side, and I would have no problem with cutting the efficiencies for all of these interim BMPs discussed today in half.
  - Sweeney: Our role at the WTWG is not to develop efficiencies, but Bill and Norm are bringing up good points. I agree with this proposal to cut those reductions in half for planning purposes, to ensure that plans don't count too much on BMP efficiencies in case the final BMP efficiencies are lower than previously estimated. Does anyone have a problem with that proposal?
- Cecilia Lane: Is it assumed that this will be re-evaluated at some future time for a change in efficiency?

- Goulet: All the BMPs will be re-evaluated, this is just an interim BMP. None of these have finished the expert process.
  - Rigelman: If you change the efficiency, that will be a new BMP that you must include in the model.
- Greg Sandi: I think the agriculture BMPs are pretty conservative already, so I'm not sure that we need a blanket cut on the efficiencies for all the BMPs we are discussing today without discussing them first.
  - Keeling: I would like to discuss them all too, but this one in particular seems high to me at 78% removal for N and 50% for P. This seems ripe for a similar situation to stream restoration where we end up walking back some reductions later on. It's much easier to take it up than down in the future.
  - Sandi: That sounds something like recapture, reuse to me also.
- Sweeney: I would like to send this back to the USWG for a more reasonable efficiency to be proposed. Can the USWG do that?
  - Goulet: I don't think this needs to go back to the workgroup for an interim BMP. I can take it back but I think that is unnecessary.
  - Keeling: We can ask the WQGIT to consider changing the efficiency on Monday's WQGIT call.
- Goulet: I think we could cut this efficiency in half. If we take this back to the USWG, that will delay the approval process since we are not meeting again until September. If we wait for the USWG to re-consider this, you won't have this available for planning purposes to the WIPs.
- Sweeney: I hope we can avoid this discussion at the WQGIT. If you can, can Norm and Bill work on a revised efficiency to present to the WQGIT on Monday?
  - Goulet: Part of the problem is that this BMP is a hodge-podge of practices, and we can change the number to be more conservative to avoid any problems with planning relaying too much on credits that are later revised to be lower.
- Sweeney: Norm, can you agree to half the efficiency for N and P? So half of 78% reductions for N and half of 50% reductions for P.
  - Norm Goulet agreed.

**Action:** Norm Goulet and Bill Keeling will revise the credit for conservation landscaping proposal to halve reductions for nitrogen and phosphorus. The revisions to reduction credits (39% N removal and 25% P removal) will be presented to the WQGIT on July 23.

- Diebel: You mentioned there are two other conditions outside of the meadow conditions that can be used for this BMP? Can you elaborate?
  - Keeling: The BCAP Program has some data on the BMPs they do, and some are reportable but some are not reportable yet. There is conservation landscaping, conservation landscaping meadows, and mulch beds. I'm not sure what mulch beds are, and the difference between conservation landscaping and the meadow.
- Sarah Diebel asked if mulching can count for this BMP. DOD is installing pollinator gardens, and would like to know if those gardens can fall into this credit.
  - Wood: Conservation landscaping should not rely on mulch to suppress weeds. They can be meadows or bay-scapes, and achieving the meadow state is the goal of this practice.

That doesn't exclude pollinator practices automatically but would need further review to include pollinator gardens in this practice.

- Goulet: that could be considered a variance on this practice, and we will add that to the list of items for a panel to discuss when developing the report. We may have a couple variations that involve changes in efficiencies for various classes of practice.
- Diebel: Is this just for homeowners, or can this be used for public lands as well?
  - Wood: Yes, this could apply to public lands as well. I only talk about homeowners for tracking and reporting frameworks, but for actual implementation and planning, it is not restricted to homeowners.
- Jeff Sweeney asked if the conservation landscaping technical considerations are sufficient to build into CAST.
  - Rigelman: the land uses are up to the homeowner to sort out, and it will be up to them to report acres treated and the land use type. CAST only cares about those areas and the efficiency to calculate the aggregated loads.
- Keeling: I'm concerned that the inputs to any land use in CAST don't include inputs from any adjacent land use area. I also want to know what the difference is between this and a vegetated treatment area?
  - Wood: I'm not sure about vegetated treatment areas, but the definition in the conservation landscaping is pretty clear. You would report the aggregate acreage converted from turf to the conservation landscape. For impervious cover run-on, you would also report the acreage treated from the impervious cover run-on. That reduction would be applied to the impervious cover land use, and the footprint would be applied to the turf land use.
  - Keeling: The implementing individual or agency would use these efficiencies to calculate the pounds of N and P reduced?
  - Wood: No, you just report the acreage and land use and the efficiency is calculated for you.
- Greg Sandi asked for an example of reporting for this practice.
  - Wood: We want this to be able to aggregate up to county scale, is that a problem to separate these practices out and add them up for aggregate reporting?
  - Sandi: That is a big effort for us in Anne Arundel County for example, if we have 14,000 of these individual practices and aggregate them up.
  - Sarah Diebel: There is no way I can take all the BMPs for federal facilities and do all that verification and QA/QC myself to aggregate these for reporting.
- Sweeney: These issues of reporting are more related to reporting for annual progress rather than technical considerations for inclusion in the model. I don't know about your verification plans, but is it clear to everyone the only information you need to put this into a plan is the total acres and land uses, as a percent of the turf grass area that you will implement this practice on.
- Cecilia Lane: At DOEE, we just keep a spreadsheet with all the practices, land uses and acreages, and that's all that we use to report in aggregate. We would have to add another column to calculate impervious acres, but those are just two individual numbers that we use for reporting and planning.
  - Keeling: You will report one BMP that is a Land use change but will be a run-on with impervious area as well.

- Rigelman: This is acres treated on one land use, two land uses or a land use group, and you report the coverage (acres treated) and the land use of the BMP. The rest, the efficiency and credit, CAST does for you.
- Keeling: If this is approved eventually for progress, we want to make sure that the effort required to report these practices is not too burdensome for the reporting agencies. Why can't we consider this as a land use change and a vegetated treatment area?
- Sweeney: The USWG will continue discussion of this practice and what issues to discuss at the USWG and the expert panel. These issues discussed today are important and should be noted for the expert panel to address.
- Keeling: We are not discussing including this practice in NEIEN for reporting now while it is interim, correct? This is just going into CAST for planning purposes?
  - Rigelman: We can include it in NEIEN so that you can report it once it's turned on but we don't have to. So yes, this would just be for CAST and your planning for now. If it's not approved by the WQGIT before the end of August, then it will not be available for WIP III planning purposes, so this needs to be approved before that deadline.
  - David: I can work with the modeling staff here at CBPO to get an example for reporting out to you.

**Decision:** The workgroup approved the revised conservation landscaping proposal for informational presentation to the WQGIT on July 23. The revisions will include reductions of the credit estimates by half from the current estimated nitrogen and phosphorus credits.

**Action:** An example of reporting practices for the conservation landscaping BMP will be included as an additional appendix in the crediting proposal.

#### 10:30 AM      **Agricultural Ditch Denitrifying Bioreactors Interim BMP -- Jeff Sweeney, EPA CBPO**

Jeff addressed the 20% TN clarification asked for during last month's meeting regarding the technical appendix for the agricultural ditch denitrifying bioreactors interim BMP. Jeff reviewed the bioreactor BMP and tile drainage. There are tiles, and woodchips in the soil that host bacteria which denitrify the N in the soil.

*Decision Requested:* Approval of the interim BMP to move forward to the WQGIT

- Sweeney: I do want to point out the bypass pipe. The flow will normally go to the bioreactors but will divert through the pipes if the flow is too great.
  - Olivia Devereux asked about the term "too great" for a bypass and separation?
  - Sweeney: There is a good summary slide in the expert panel materials to give an overview of the 20%. If you have no overflow and the bioreactor is treating all the flow, then you can have greater than 90% N removal. But since overflow occurs pretty often, they estimated 20% if these bioreactors are functioning 10 out of 12 months of the year and overflow at a certain storm level fairly frequently.
- Sweeney: this is answering Bill's question from last month, in applying to total N and nitrate. In the model, these practices only look at total N and not those species of Nitrate. We have a

conversion calculation, but the total reduction of N will be less in the model than what the estimate is in the report for nitrate.

- Jeff Sweeney asked for objections to approving the bioreactors for implementation planning? If members have questions, they are encouraged to ask panel members in VA and on the Eastern Shore.
- Devereux: What size storm is this effective for?
  - Sweeney: The 20% is best professional judgement, and the rest is the overflow. The 20% is based on it failing at a certain size storm that occurs at X interval.
- Rigelman: If we knock down conservation landscaping by 50%, are we also going to reduce the reductions here in case the reductions are less on final publication of the panel report?
  - Jeff: They have already considered that and this estimate is on the conservative side.
- Bill Keeling asked about N speciation.
  - Devereux: N is total for BMPs, but the output does consider speciation.
  - Sweeney: We can calculate total N from nitrate reductions.
- Sarah Diebel asked about the overflow. If there is too much flow into the bioreactor, how does the efficiency take into account the potential for overflow?
  - Sweeney: If you did not have overflow, you would have a 90% reduction of nitrogen. Because the overflow occurs pretty often, the expert panel's best professional judgement was to estimate the reduction at more conservative 20% instead. The 20% does account for the overflow.

**Decision:** The workgroup approved the interim ditch bioreactors practice proposal for informational presentation to the WQGIT on July 23.

10:40 AM      **Saturated Buffers Interim BMP** – Jeff Sweeney, EPA CBPO

Jeff presented the technical appendix for the saturated buffers interim BMP to the workgroup.

*Decision Requested:* Approval of the interim BMP to move forward to the WQGIT.

- Loretta Collins can take questions later.
- Jess Rigelman asked about converting to drainage for buffers?
  - Sweeney: That takes into account the land use conversion and the tile drainage and
  - Rigelman: So you convert to a buffer, and then you have an upland efficiency. And that is mutually exclusive with all other upland buffers,
  - Sweeney: Right, that is its own buffer, and it is exclusive to all other vegetated buffers, you can't have more than one type of buffer on 1 acre of ag land.
- Keeling: you can't have other buffers installed, and if this is interim
  - Sweeney: We need to make sure this is easier to process in CAST for plans. You have the buffer in addition to the perforated pipe. We want to make sure the methods are clear for reporting and processing this in CAST.
  - Rigelman: That other option to add that efficiency to CAST to report the two numbers can be done.
  - Sweeney: We would need to take that consideration to the panel to include their recommendations on that alternative reporting.

- Rigelman: There are a lot of new ag practices, and all of these could be on the same acre of land.

**Action:** The WTWG will discuss how saturated buffers function and whether all practices can be combined in a single acre of agricultural land.

**Action:** WTWG members are encouraged to contact Loretta Collins with any questions.  
([lcollins@chesapeakebay.net](mailto:lcollins@chesapeakebay.net))

**Decision:** The workgroup approved the technical appendix for the saturated buffers interim BMP will be presented to the WQGIT for informational purposes only at the July 23 WQGIT call.

11:10 AM      **Onsite Wastewater Treatment Systems Interim BMP** – Marcia Degen, VDH

Marcia presented the technical appendix and background for the onsite wastewater treatment systems interim BMP to the workgroup.

*Decision Requested:* Approval of the Onsite Wastewater Treatment Systems interim BMP to the workgroup.

- Marcia Degen: you can pair these new drip practices with ex-situ practices to get to these total added practices.
- Devereux: I have questions from CAST users on the existing septic practices regarding how to match performance-based systems with these BMPs. Will your report have any guidance there?
  - Degen: Most of these treatment systems use MSF 40. When you get to the higher performances, that does not mean that you will be getting additional N reductions there. There is one aerobic system here as well.
  - Devereux: I don't think that manufacturers provide their system descriptions, and AST users have trouble to add those BMPs as performance based. I think that this will add to the difficulty of these practices.
  - Jeff: Maybe we can ask the WWTWG to review those questions and come up with some defaults for those who don't know the specs of their systems?
- Keeling: How do I report for constructed wetlands?
  - Degen: These BMPs are reported every year. It is VDH that would need to keep up with the DEQ tracking ID.
  - Keeling: Can you install one of these in a sandy soil with less than 18 inches, but you can't report as a BMP?
  - Degen: The original BMPs were based on common design specs. With these it will be a little more difficult to do that verification every year. You will need a permit to do these modifications, as well as to report as a BMP.
- Sweeney: For your implementation plans, you need to consider how you want to add all those components together and you would select the combination from the list available. And these are compatible with pump out practices as well.

**Decision:** The workgroup approved the Onsite Wastewater Treatment System interim BMP for informational presentation to the WQGIT on July 23.

11:40 AM      **Revision of NEIEN XML Schema**—Greg Sandi, MDE



Greg discussed the proposed changes to the process for submitting to NEIEN.

- Greg Sandi asked for volunteers to help review the schema and appendix for NEIEN.
  - Bill Keeling volunteered.
- Alana Hartman wants more information about what the proposed revisions will be.
  - Sandi: There are particular codes in NEIEN. We can review the codes for now, and revise the schema later.
- Brittany Sturgis asked to stay informed.
- Sweeney: We can bring this back to another WTWG call.

**Action:** The WTWG will discuss NEIEN appendix revisions and schema at an upcoming WTWG call.

11:50 AM      **Boat Pump-out Interim BMP**—Vic D’Amato, TetraTech

Vic presented the technical appendix for the Boat Pump-Out interim BMP. Vic reviewed the history of the charge and work of the pump-out panel. Mainly in MD and VA, could be applied to DE and DC but there was limited data for DE and DC. In WWTWG, there were many comments from VA DEQ and concerns about overestimation of boat discharge loads. Ning and Lew Linker also provided comments. Did not want to make the pump-out practices too burdensome for data collection related to permits and reporting but want jurisdictions to use and want to incentivize with CBP.

- Goulet: I have not read this report. I asked to be part of this panel but nobody contacted me. What was decided to be the uncontrollable load, given that discharges are illegal anywhere in the Bay?
  - D’Amato: We had involvement from state experts in the states. We estimated loads without discriminating between illicit and illegal discharge. We did not consider if those regulations exclude discharge in the Bay and where in the Bay they can be discharged.
  - Linker: Type I and Type II of discharge, those are legal in the bay and they do include nutrients. If you look at the start of pump-outs.
- Goulet: Someone needs to talk to the EPA, because these practices are considered to be illegal and I expect EPA will have some questions.
- Linker: This is a state federal partnership, and we will evaluate within the partnership first, and we will deal with any questions from the EPA if we receive those.
- D’Amato: The original panel included EPA in the interested parties, but involvement did drop off during report development. With the illicit discharge, our technical experts determined that fixing legacy and noncompliance systems with septic is considered the best practice for reducing nutrients.
- Keeling: If these loads are in the tidal areas, they would be considered in the estuarine model, at least implicitly.
  - Linker: Correct.
  - Keeling: Are we taking the loads out of the watershed for loads that are not in the watershed but are in those tidal areas.
  - Linker: It is an operational thing to make sure the model works out correctly with the mass balance.
  - Keeling: I am still concerned with how that is accounted for.

- Diebel: Have the loads been Identified and incorporated into the model?
  - Linker: No, that would be a new load source that would have to be included in the model. If we were to add those loads into the model, I don't know that we'd see any change in the model loads. But we can't make those changes until fall 2019. But we can add a BMP to address a load that we don't have. This would be applied to the shoreline load in the estuarine model. And then would be included in the watershed model as a credit.
- Linker: This would be in parallel with having the loads ready to go for the model updates, and then we can include a standard rating for boat pump-out.
- Goulet: These are large boats, and there are not very many of them. This potential load is really small.
- Keeling: The inputs to the estuarine model and the watershed model—neither have this load accounted for. We are crediting this to the watershed where it is not an input?
- Linker: That's a good point, and we need to come up with a proposal to apply these loads to the model.
- Sweeney: This item is going to the WQGIT on Monday but just for informational purposes, and we can continue this discussion then. We will continue to work on the technical appendix for boat pump out and determine how to credit, report, and determine what the loads will look like. We don't know if we will have consensus to include this in CAST on Monday. For VA and MD, please consider whether you have a program to expand marinas that provide pump-outs, and if so, we may have some justification to allow this to be included in the model for that interim planning for WIPs.

**Action:** For the BMPs that are being submitted to the WQGIT for approval, WTWG members are asked to reach out to their jurisdictional WQGIT reps to brief them before Monday's call.

**Action:** The WWTWG and Modeling Workgroup will review the identified questions in the Boat Pump-Out technical appendix in order to finalize technical considerations for inclusion of boat pump-out in the modeling tools.

**Decision:** The workgroup approved the Boat Pump-Out interim BMP for informational presentation to the WQGIT on July 23.

11:40 AM      **Volunteer for Animal Mortality Management Expert Panel** –Jeff Sweeney, EPA CBPO

- Sweeney: Allie and I will contact one or more members for interest in volunteering on animal mortality BMP panel.

**Action:** Jeff Sweeney and Allie Wagner will contact one or more WTWG members for interest in volunteering on the Animal Mortality BMP expert panel.

12:20 PM      **Wrap-Up**

- Sweeney: There are some participants on these calls that are not formal members, and we will reach out to you for interest in membership of the workgroup.
- Diebel: we are considering a BMP crediting report for progress. We want to know if there is interest in discussing the reports with the WTWG.
  - Sweeney: We can add a brief agenda item on that for the next WTWG meeting.

**Action:** Jeff Sweeney and Allie Wagner will reach out to WTWG membership and frequent call participants to update WTWG membership roles.

**Action:** Discussion of BMP crediting reports will take place at an upcoming WTWG call.

12:30 PM      **Adjourned**

Call Participants:

Jeff Sweeney, EPA CBPO  
Michelle Williams, CRC  
David Wood, CSN  
Olivia Devereux, Devereux Consulting  
Bill Keeling, VA DEQ  
Greg Sandi, MDE  
Brittany Sturgis, DNREC  
Alison Santoro, MD DNR  
Jess Rigelman, J7 LLC  
Luke Cole, DC DOEE  
Alana Hartman, WV DEP  
Norm Goulet, NoVA Region  
Sarah Diebel, DOD  
Phillip Stafford, MDNR  
Marcia Degen, VDH  
Vic D'Amato, TetraTech  
Lew Linker, EPA CBPO