



**Chesapeake Bay Program
Watershed Technical Workgroup (WTWG)
Conference call
Thursday, February 5, 2014
10:00 AM to 12:00 PM**

MINUTES

Summary of Action and Decision Items:

DECISION: The WTWG approved the December 2014 meeting minutes as written.

ACTION: Jeremy Hanson will share the latest version of the Impervious Disconnection panel's scope of work with Matt Johnston to distribute to the WTWG.

ACTION: Mark Dubin will present draft AgWG panel scopes of work at the March 5th WTWG meeting so that WTWG panel reps can be selected prior to the March AgWG meeting.

ACTION: Mark Dubin will distribute the scope of work for the Animal Waste Management Systems (AWMS) BMP within the next several weeks.

ACTION: Lew Linker will distribute a document to summarize the primary literature on the development of the Chesapeake Bay average fine sediment shoreline erosion mass loading (Cerco et al 2010), used to get these sediment reduction default rates.

ACTION: WTWG will be asked to provide comments and vote on approval of the revised Shoreline Management report over email by February 13th.

ACTION: WTWG members will look over the proposed NEIEN land uses that could be added to the NEIEN appendix (slide 4 of Matt's [presentation](#)) and suggest any other land uses they would like to see available in the NEIEN appendix.

ACTION: WTWG members should review the NEIEN appendix itself and submit a complete list of BMP names they are using that are not currently captured in the NEIEN appendix.

Welcome, Introductions, and Announcements – Ted Tesler, Chair

- Matt Johnston (Coordinator) reviewed the December meeting [minutes](#) and provided an update on the action and decision items from that meeting.

DECISION: The WTWG approved the December 2014 meeting minutes as written.

- Matt thanked workgroup members for their work so far on 2014 Progress reporting and noted that they are on track to meet the February 13th deadline for final progress. Ning Zhou (VT, CBPO) is working on point source data currently, and should finish today (February 5th). The final 2014 progress will be run on February 6th, and jurisdictions should look for results, as well as invitations to schedule final conference calls to review results and ask for approval, by February 10th or 11th.
- Ted Tesler (PA DEP): Once we see progress reports come back, how long will we have to see them and give our approval?
 - Johnston: We don't have a date for final approval by jurisdictions, but I would anticipate about one week.

BMP Panel Updates – Mark Dubin (UMD) and Jeremy Hanson (VT)

- Mark and Jeremy provided brief descriptions of upcoming BMP expert panels. WTWG members will eventually be asked to choose a representative for each panel.
- Mark reviewed the current protocol developed by the AgWG for convening expert panels. Currently, subgroups are being formed and will be tasked with developing charges for the upcoming panels. The WTWG representatives will be for the actual panels, not the subgroups. Mark then reviewed the following list of upcoming agriculture BMP panels:
 - Nutrient Application Management
 - Cover Crops (traditional, commodity, and new on crops associated with livestock manure applications)
 - Conservation Tillage
 - Manure Injection (interim) and Manure Incorporation (new)
 - Cropland irrigation management (moving from interim to full)
 - Animal Waste Management Systems and poultry heavy use area concrete pads
 - Greenhouse runoff management
- Jeremy discussed the Virginia Tech panels in [more detail](#):
 - Animal waste management systems and poultry heavy use area concrete pads bmp
 - Urban impervious disconnections (RFP should be released within the next several weeks).
- Johnston: So we have 8 panels and we need a WTWG rep for each. When do you need nominees by? Should we wait until after the scopes of work are developed?
 - Dubin: Yes, I would say after the scope of works has been drafted.
 - Hanson: Impervious disconnect could be moved forward soon.

ACTION: Jeremy will share latest version of scope of work with Matt to distribute to the WTWG.

- Dubin: Charges for the rest of the panels should hopefully be available by the March AgWG meeting.

ACTION: Mark will present draft scopes of work at the March 5th WTWG meeting so that WTWG panel reps can be selected prior to the March AgWG meeting.

- Dubin: We may need the waste management systems rep a little sooner (provide a rep for that group within the next week or two).

ACTION: Mark will distribute the scope of work for the Animal Waste Management Systems (AWMS) BMP within the next several weeks.

- Jeff Sweeney (EPA): AWMS is very important and we need to be sure to have a good WTWG rep on that panel.
- Johnston: I would encourage WTWG members who are also on the Ag Workgroup to volunteer. Being on both groups (AgWG and AWMS Panel) at the same time would be very valuable.
- James Davis-Martin (VA DEQ): Jeremy, is scope of work the same as a charge? And it follows the same review and approval process?
 - Hanson: Yes, they are basically interchangeable terms. The AgWG protocol is slightly different now but has been approved by the WQGIT.
 - Dubin: The report from the subgroup, approved by the AgWG, was used by Jeremy to write the scope for the panel. They are tied together. If a BMP is not going to Virginia

Tech, we will use that same charge document from the subgroup that will be approved by the AgWG, to form that new panel. So they are very similar.

- Davis-Martin: You need to look back at the BMP protocol and the review and approval process. I want to make sure it goes up the appropriate chain.
 - Dubin: The charges will definitely be shared with the appropriate parties when developed.
- Davis-Martin: Is there a plan to develop deadlines for the panels in those charges?
 - Dubin: Virginia Tech's panels will definitely have deadlines. The AgWG panels will have those as well, but they may be a little different. The schedule will be part of the panel charge.
- Davis-Martin: The historic data cleanup deadline is important to keep in mind because if a new BMP has data that goes back in time, we need to know in time to go back and collect the historic data and report it.
 - Johnston: I had the same concern. I believe that because some of these practices are interim BMPs already and we have records in the database, states are still submitting them to NEIEN currently. We do have a process set up to collect these BMPs and BMP names. We will definitely have these established in the NEIEN appendix.
 - Davis-Martin: It is just difficult to guess what the reportable measures are going to be.
 - Dubin: We will be developing definitions for the practices before the start of the panel so that the Bay Program modelers and WTWG members have those definitions early. We may be asking the panels to do some preliminary work prior to the full recommendation package.
 - Davis-Martin: Thanks, I am reassured.
- Sweeney: Shouldn't the focus be on the panels that affect the calibration period?
 - Dubin: We will have more discussion on this with the AgWG. We have been doing more prioritizing of this list, and that is a method we have talked about.

Shoreline Management Update – Bill Stack

- Bill provided an updated non-conforming (default) rate for the shoreline management BMP that was drafted in response to concerns expressed at the Water Quality GIT.
 - For more information, please see Bill's [presentation](#).
- Stack: The proposed solution is to tie the default sediment reduction rate to Chesapeake Bay average fine sediment shoreline erosion mass loading (Cerco et al 2010), which is analogous to the numbers in the estuarine model. Rates for Maryland would also apply to D.C. and Delaware. We ran this by Dianne McNally (EPA Region III), who originally raised the concerns, and Region III didn't have any issues.
- Carl Friedrichs (VIMS): Why is the rate five times higher in Maryland than Virginia?
 - Stack: It is based on actual estimated loading rates. Based on Cerco's findings, Maryland loadings from shoreline erosion are just that much higher.
 - Lew Linker (EPA): That's correct. Carl, I wanted to point out that this is the VIMS understanding of the areas of protected shoreline, the shoreline recession rate. The Maryland Geologic Survey was also involved in this research. This is a summary for Maryland and Virginia, and the loading is pretty much model cell by model cell (about a kilometer). So there is a lot behind this, and it is done by VIMS work and small boat work.
- Sweeney: Is there an explanation for the difference?
 - Linker: Because of geography and geology most likely, but you would have to find answers

in the primary literature.

- Johnston: In the last version of the appendix, we had a cap. That cap was on the sediment loadings in the water quality sediment transport model (WQSTM). The default rate we are looking at now are tied to these loading rates which are summarized over all of the water quality sediment cells for Maryland and Virginia. So would that cap still be in place so that if the recession rate on Maryland's eastern shore is high but on the western shore it is low, you would have a different cap in place for each?
 - Linker: There is another level of discrete region issues. The cap is used on the water quality sediment transport cells associated with a land river segment. Those model cells have some erosion rates and that is derived from the Maryland Geological Survey and VIMS estimate, and that is what sets the caps.
- Johnston: So it is conceivable that using this default rate for Maryland, might exceed the cap for a single land river segment, and would therefore be capped because of what the WQSTM is telling us?
 - Linker: Correct.
- Davis-Martin: We are trading one value for another, what is our certainty in either of those values that would justify choosing one or the other as the "best available science?"
 - Linker: You would have to speak to the principle investigators to get that uncertainty analysis. It is certainly our best understanding in the Chesapeake.
- Davis-Martin: But we really don't have any sense that this is what we would find out in the world.
- Friedrichs: I think that is a good question and the general problem with a one size fits all default rate. But you can argue that the default rate is based on recommendations that came from a panel of experts and that they are based on tidal shoreline studies instead of stream restoration studies like they were before.
- Davis-Martin: Bill, the numbers for the proposed default rate on the slide being shown and the one on the event calendar page are different.
- Stack: In one presentation I assumed 100% efficiency for any tidal shoreline practice. Then I looked back at the assumptions with protocol 1, and there is a 50% reduction factor applied to tidal shoreline practices that do not meet the angle of repose, because the expert panel felt that in those conditions there is a likelihood of failure. So my reasoning was that for projects that do not have all the necessary data and have to use the default rate, they would not be able to report on whether their practice can meet the angle of repose, so I thought it was conservative to apply a 50% reduction factor.
 - Stack: So you are right, we should be looking at 164 in Maryland, and 42 in Virginia.
- Lane: So this default rate is associated with how protocol 1 was developed. In the dissenting opinions in the report, they noted that while protocol 1 gives credit for reducing fine grain sediment, it needs to be balanced with the fact that we are preventing coarse grain sediment, which can be beneficial to the Bay. When you sent this back around for comment, did the dissenters have this same problem with the default rate since it is still based on protocol 1?
 - Stack: The default rate is not based on protocol 1, it is based on the figure in slide 3. The reference to protocol 1 is the 50% load reduction factor that is associated with the angle of repose.
 - Lane: Ok, thank you for clarifying.
- Davis-Martin: The angle of repose has to do with the angle of the structure?
 - Stack: The area adjacent to the structure.

- Davis-Martin: I wouldn't necessarily make that same assumption. Remind me of the required reporting elements for this?
- Johnston: We don't have the latest technical appendix on the screen, but in that appendix, it lists the measurements needed: length restored, acres planted, and specific reductions by pound for N, P, and S for protocol 1. If you don't have that, it is just length restored and you get the default rate.
- Johnston: So to bring it back to the primary question: Are folks on the phone comfortable with 164 for Maryland and 42 for Virginia as the default rates?
 - Davis-Martin: I don't have any confidence that this number is better than the previous number, but I didn't have any confidence in the other number either, so it doesn't matter which you use.
- Freidrichs: If we can find the primary documentation that might be helpful.
 - Davis-Martin: I definitely agree with that, because it doesn't look like it makes sense.
 - Johnston: Lew, can we put together a document that summarized the Cerco work?
 - Linker: Yes, I will put that together and send it out.

ACTION: Lew will distribute a document to summarize the primary literature on the development of the Chesapeake Bay average fine sediment shoreline erosion mass loading (Cerco et al 2010), used to get these sediment reduction default rates.

- Johnston: We will ask for a vote over email so that we can close this panel out.

ACTION: WTWG will be asked to provide comments and vote on approval of the revised Shoreline Management report over email by February 13th.

- Stack: Remember when you are making your decisions that we are comparing the loading rates from the study by Cerco on shoreline erosion, to average loading rates from streams. While there will definitely be uncertainty, as with all default rates, it is definitely an improvement.

Historical BMP Cleanup CBPO Update – Matt Johnston

- Matt provided an update on CBPO efforts to provide revised NEIEN documentation for the historic BMP cleanup process.
- Matt reviewed the historic data cleanup [memo](#) that was sent out to all WTWG members this week. The June 30th deadline is so we can start analyzing data in NEIEN and cleaning it up for the states. We understand that data will come in later, but the better the quality of the data is early, the better quality we will have later. By March 31st, the goal is to have the example NEIEN xml list final, the NEIEN appendix revised, and the NEIEN codes list revised. Matt reviewed the proposed list of land uses that will be in the phase 6 watershed model and what can be put in the NEIEN appendix. The important thing to remember is not that all of the land uses are there, but that we are matching the data to the way you are collecting it.

ACTION: WTWG members should look over the proposed NEIEN land uses that could be added to the NEIEN appendix (slide 4 of Matt's [presentation](#)) and suggest any other land uses you would like to see available in the NEIEN appendix.

ACTION: WTWG members should review the NEIEN appendix itself and submit a complete list of BMP

names you are using that are not captured in the NEIEN appendix.

- Davis-Martin: What if we have a situation where a BMP we call SL6 actually maps simultaneously to multiple Scenario Builder BMPs? How does that work?
 - Johnston: That is up to the states to break that out into multiple practices. Maybe we add 3 rows to the appendix and say SL6 fencing, SL6 precision grazing, etc. You may triple report that practice, but you will have multiple records in there to do it. It can be a one-to-many.
- Johnston: The latest version of codes list and appendix are available with links in the historic data cleanup [memo](#). You can follow up with me if you have any more questions.
- Jason Keppler (MDA): What are we on the hook for verifying as we move forward?
 - Johnston: That is determined by the verification protocols the states are developing. Maintenance and inspection dates will be reported and they have already been figured out and are reported in NEIEN. How you keep track of those vary by practice.
 - Keppler: Everything we report in our historic data is subject to the verification protocol.
 - Tesler: Practically speaking, that might be difficult because of the lack of data. Also, how does that affect calibration? To what extent do we need to develop verification on practices that predated calibration?
- Johnston: There is no predating calibration. We have been talking about credit duration, but for calibration of the model, no one will have inspection dates for 1995 practices. So how do you all want to approach this? Do we keep all the practices in the calibration of the model regardless of the credit duration? But when we do progress later, credit duration kicks in?
 - Davis-Martin: Wouldn't that leave you with a huge drop in your BMP number the first year following calibration?
 - Johnston: Yes, it would.
 - Davis-Martin: I don't see how that makes a lot of sense. I think the verification framework and their expectation was that it was applied through the entire history of BMPs.
- Davis-Martin: Supposed there is a ten year lifespan bmp installed in 1990 that would drop out in 2000. In 2005 it is re-inspected and verified to still be there, do you get another ten years?
 - Johnston: There are two ways to do that. We have documents that can help you out with that. One way is that when you go back and verify that practices still exist, you may have to break up those practices into multiple records, if say only a fraction of a buffer is still verified to be present. The other way, is if you have one practice, with one inspection date, you may be able to keep it as one record with one inspection date. It requires you to review the BMPs that are currently in NEIEN and change those that are required to be changed.
- Keppler: I support the idea of being able to use the full record set for the calibration period without having to worry about fallout or backing out of BMPs through that process. I am concerned that the next year, when everything falls, our jurisdictions should be given the opportunity to have a grace period to verify BMP information before it falls out.
 - Johnston: This doesn't impact credit in the model until progress 2017.
 - Keppler: So we have the opportunity now to verify these BMPs if we want, but this will be an added workload.
- Johnston: We are revising NEIEN error reports to flag BMPs that have gone beyond their credit duration, to help you manage the data better.

Historical BMP Cleanup Updates – All Jurisdictions

- Each jurisdiction was asked to provide an update on their efforts to-date. Jurisdictions were encouraged to discuss what additional information and/or resources are needed to complete this project.
- Ted Tesler (PA DEP): So far we have been focused on 2014 progress reporting, and we have not taken up historical BMP cleanup aggressively yet. We have concerns about how to quantify. It would be helpful if we had snapshots along the way. Some of the data gets very poor. It was an estimate then, and there wasn't a lot of supporting documentation. We might have to get a little creative when it comes to filling out NEIEN because of the lack of reliable data. Specifically the pre-2000 period will be difficult. We will come up with some method to develop an incremental approach, and tie it with our programs. I am concerned about our IT department because we are separated from them and I can't do it myself, so communicating what we need from them is difficult. I am worried about the urban sector data because the records are spotty, and estimations were used even into the late 2000's. The agriculture sector will be difficult because the back data and farm specific data isn't there. Overall, I am more confident in reporting where we are now, compared to where we were then and possibly putting false credibility into old data.
 - Johnston: I think the key is that we all have a lot of uncertainty in the data going back in time. It will help if each state can document the methods they used. As every state works through this, please don't hesitate to reach out with questions or concerns.
- Steve Gladding (NYSDEC): The person we had tasked with the BMP data cleanup has left, so those duties fell to someone else who already had a full workload. I am not very confident that this has moved forward very far.
 - Johnston: How are you collecting your urban data, were you able to reach out to localities?
 - Gladding: I think there is going to be very little information on any urban data, and I don't think that is even our focus at this point. Most of our focus now will be on going through paper records in the agriculture sector data.
- Tyler Montieth (DE DNREC): We will be submitting a proposal to Tetra Tech soon to address the development of the BMP Verification protocol and the historic data cleanup effort to see the level of effort required to do that. We have also started working on a number of other projects. We have been working with KCI (contracted with DelDot) to get mostly stormwater data back to 1987. We did a septic analysis GIS study to pick up sewer connections data. We also went back into a historic wetlands restoration database and verified data with the project leads back to 1989. We have been meeting with our conservation district staff to verify water control structures back to 1987, and now we are working with the Department of Agriculture, specifically the Forestry Department, to do cleanup of planting and timber harvest data. We have timber harvest back to 1991 and plantings to 2008. Next we will do a cleanup of Animal waste management systems and mortality composters.
- Greg Sandi (MDE): We are in the process of providing feedback to most of our local jurisdictions with our current urban BMP database. We have lots of records, but most are not usable. We are trying to clean the data so we can get information back to that period. We might be in a similar situation to Pennsylvania with our stormwater data by era, but that is something we are working through. Jason Keppler can speak to our agriculture data cleanup.
- Jason Keppler (MDA): We are on track. Have a methodology in place to clean up our historic BMP implementation. Traditionally we relied on our cost share program for that information but with

development of conservation tracker system, we are better able to account for non-cost shared BMPs, or BMPs installed with federal funds only. We are going through a reconciliation process between what we have in our state cost share program versus what is in the conservation tracker system. Tillage and some other annual practices may be more problematic, but overall we are in good shape.

- Alana Hartman (WV DEP): We had an intern go into county records for Animal Waste Management Systems to get more accurate info, including whether they were poultry or livestock, and how many animals they were serving. That information goes back to 1998. They have also looked at local lot management and mortality composters because we have never entered any of those. I will need some help running an error report to make sure it validates before I update all of the records, the NEIEN report we get now doesn't go back that far in time. We have spent a lot of time on CREP fencing and CREP buffers. That will enable us to say which buffers are on trampled riparian pasture (trp) and projects done with other funds will be entered as regular buffers. How much effort has to go into annual BMPs like nutrient management and erosion and sediment control? With the expert panels changing how to report, I have ignored recent years since I know they are not going to be carried over in our progress reporting because they are annual. Do I need to go back and reenter those in the proper way?
 - Johnston: I think other states will have similar questions, if you can send them to me in emails, I will compile them and send out the responses.
- James Davis-Martin (VA DEQ): On the urban BMP front, we have initiated a request for proposals (RFP) out to all of our local governments, offering them a total of \$1.5 million to provide the data they have as well as some documentation of their quality assurance and quality control processes. Depending on the success and response rate to that RFP, we could either be in good shape or terrible shape on the urban front. The grant offering requires local governments to provide the data by September 1st, and there is no way this urban data will be ready for a June 30th draft submission. We are also dealing with how to handle older data records if local governments can't provide them, and what we are going to do with those governments that do not provide data. We are leaning towards giving zero credit for practices to the localities that do not provide data. On the agriculture front, we have a good database of records through the state cost share program. That should be relatively easy although we have significant concerns about the NRCS data and whether they can provide it, and if they do provide it, how we will reduce the likelihood of duplicates among the data. That may result in no history of NRCS implementation in Virginia. We have requested data from our health department, forestry department, and mines minerals and energy department on their BMPs as well as base land use information. Finally, at this point, we do not have any agreed upon process with federal facilities for how they will feed into these historic data cleanup effort and that is a significant issue in our state. We are looking to the Federal Facility Targets Action Team to help us resolve those issues.
 - Johnston: Good point about the federal facilities. I have been talking with DOD about the data template. The NRCS process is ongoing.
- Johnston: Ted Tesler has been asked to present to the Management Board in the next week on where we stand in this process.

Adjourn