Urban Stormwater Workgroup Meeting
Meeting Minutes
Tuesday, November 19th, 2024
10:00 AM - 11:30 PM
Meeting Materials

Summary of Actions and Decisions

Action: If jurisdictions have septic data for their states or localities, they should mail Jackie Pickford, USGS (jpickford@chesapeakebay.net). These data will be used to validate the model results and/or refine methods.
Action: Jackie will notify the WWTWG and the USWG when the sewer service area data is posted on the web viewer for review and feedback.
Action: David will follow up with jurisdictions that weren't present to finalize the vote on the Biochar BMP interpretation request.
Action: Jurisdictional members will run the decision up their flagpoles and the USWG will vote at next meeting in December.
Action: David will follow up with Olivia regarding the National Water Quality dataset
Decision: The USWG approved the May USWG Meeting Minutes.

10:00 Welcome and Review of May Meeting Minutes.
Norm Goulet, Chair.

Decision: The USWG approved the May USWG Meeting Minutes.

10:05 Announcements and Updates

- Update on GIT Funding Proposal
  - The team has received three proposals and the deadline for review is Wednesday November 27th. David is not sure on a deadline beyond that. He has not taken a look at the proposals yet but is sure that there is at least one good one. David will keep USWG posted once a project is selected.
- UNM Panel Update
  - The UNM Panel held their second meeting on November 6th. They did a deeper dive on fertilizer trends and sales data, and then went into the factors to be explored that can explain the trends in that information, like differences between state fertilizer legislation. Currently they are honing in on looking at industry data sources to validate what we are seeing in trends and getting information on speciality products. This includes looking at how specialty products used in construction stabilization and if there have been changes to the proportions of sales over time. Finally, they will dive in to urban soil phosphorus dynamics including what is available for plant uptake. The panel is hoping to move into more specific BMP discussions in the new year.

- The biochar presentations (1, 2) from the October USWG Meeting have been uploaded to the October USWG Meeting Calendar Page.

10:15 Septic Systems and Sewer Service Areas for Phase 7
Jackie Pickford, USGS

Jackie described the current approach and timeline for preparing and updating septic and sewer service data for the Phase 7 watershed model. She reviewed updated methods and provided preliminary data for Maryland and Delaware. Following the presentation, there was time for feedback and questions from the group.

Tentative Decision Requested: The WWTWG and USWG will be asked to approve the updated methods for septic and sewer service areas for the Phase 7 Watershed Model.
Note: Due to the septics team still needing time to finalize the methods, there was no decision requested at the November USWG Meeting.

Discussion:

Norm Goulet: Is that half an acre? I know quite a few parcels that are on septic and definitely smaller than a half-acre.
Jackie Pickford: I will get into that later; we realized that after the first run and did an analysis without the half acre threshold which gave drastically different results. We recognize the potential issue with the threshold.
Olivia Devereux (in chat): I realize the focus is on the number of systems. Is there any intention to model a load for P as well as N or just stick with N?
Norm Goulet: I'm ecstatic that you are finally using the information we sent over. However, that information is now five or more years old, and a lot of changes in Northern Virginia in five years. I'm a bit concerned on some of the data you showed, such as the Anne Arundel County numbers; they show a tremendous decrease. Have you tried contacting MDE or MDP to see if there is further data to do ground truthing with?
Jackie Pickford: I have the same concerns, and we haven't contacted them, but we plan to. I found some data online, but we plan to talk to MDE or MDP first.
Norm Goulet: Feel free to browse a number of local government GIS websites. Some will have it, and some won't, but any additional data to validate the methodology will be good. In terms of whether to incorporate commercial land, I think yes. You showed that screenshot of a golf course surrounded by septic. The odds of there being a sewer run into that golf course are low. At best it's got a small package treatment plant for its facility, or its on septic; my answer is yes, you should include the commercial. There are a lot of commercial entities that are on septics. I am less concerned with the number of people on septics as much as the total number of systems, and what kind of loading we are getting from them that may be undercounted or overcounted in the Phase 7 model. I would like to review this and see if I could come up with something. As you know, the septics have been a pet issue of mine over the years.

Cassie Davis: Thanks, Jackie, for going over this. In New York State we have the office of Real Tax Parcel Assessments that includes whether or not a parcel has septic or sewer and can send that data to you. I agree with including commercial, and I also think we should include parcels smaller than 0.5 acres, just because our highest priority septics in NY are lakes surrounded by 0.25 acre lots. They are out there and a source of nutrients to those smaller lakes, so I think they should be included.
KC Filippino: So happy to see this moving forward. Echoing Norm's comment about commercial; I wonder if there's a way to go further than permits, or if the states can help you with getting the permits that are associated with those properties especially if they aren't in the sewered area. There's got to be a way since those will be bigger than residential too. I don't think excluding them is a great idea. The other thought I had was in order to really know and compare Phase 6 and Phase 7, whatever method is decided on, if you could share what the differences between the two phases looks like because that will draw people's attention to what's right and wrong. If they have a better data source maybe it can't get improved right away, but at least they'll know 'wow, my loads went way up,' because they did a new method. Having those comparisons would be really helpful. I'm not so concerned about the population but more about the total number of systems like Norm said.
Jackie Pickford: When you say share the Phase 6 versus Phase 7 do you mean just the numbers in my presentation or the full methodology?
KC Filippino: Whatever we decide, to see that difference.
Jackie Pickford: I can definitely do that.
Joseph Delesantro: A couple points. First, I spoke a bit on septics and sewers at a STAC workshop, and my work also had not included septic systems in surface boundaries. They were of the opinion that they knew where 90% of the septic systems were within their service boundaries. I wonder if it makes sense to include an option to allow municipalities to give you guys point files where they know the location of legacy systems. I can't remember who I was talking to, but if you think it would be useful to reach out, I can try to track them down. In concept I love the idea of thinking of the hydrogeomorphic position of these systems, and I'd say that there's a couple things to consider. First, it will be useful for both N and P, but especially for P. As I understand it, currently the model has no P coming from septic systems, which is sort of a question mark for me. I believe we also consider septic as a direct load, so the way the model is currently structured we may not be able to apply a mediating factor for position of these systems. Not sure who we would need to take them to for consideration of these things.
Norm Goulet: Piggybacking on something Joseph just said; one of the assumptions we're making here is that there is no septic in the sewer area. We know that is false because we have a BMP called septic to sewer conversion. Somehow, we've got to figure out a way to get a number within the sewer service areas. That way it allows us to use the

conversion BMP. Otherwise, the numbers we were taking would come from those on this presentation, and we would be decreasing the numbers in the septic areas.

Action: If jurisdictions have septic data for their states or localities, they should mail Jackie Pickford, USGS (jpickford@chesapeakebay.net). These data will be used to validate the model results and/or refine methods.

Action: Jackie will notify the WWTWG and the USWG when the sewer service area data is posted on the web viewer for review and feedback.

10:40 BMP Proposal: Biochar as an Amendment to Existing Runoff Reduction Practices
David Wood, CSN

David went over the history of this proposal in the USWG and discussed the Implications of adopting the various options being considered for adoption by the workgroup.

Decision Requested: The Urban Stormwater Workgroup will make a decision regarding how to proceed with the BMP Interpretation request, shared during the October meeting, to evaluate biochar amendments to existing runoff reduction practices.

- Option 1: Do not pursue this proposal at this time
- Option 2: Proceed with the USWG's Approved BMP Interpretation Policy
- Option 3: Proceed with a full expert panel review, when resources are available.
- Option 4: Proceed with a BMP Interpretation for biochar amendments in runoff reduction practices AND convene a full expert panel review of a wider range of soil health amendments, including biochar, following conclusion of the Urban Nutrient Management expert panel.

Discussion:

Gillian Adkins: I just want to reiterate that MDE does not feel that we're ready to take a vote on this. If you want to do a tentative decision that's fine, but MDE will not be voting today.
Norm Goulet: Appreciate that. What we'll try to do is get tentative approval and then you guys can mull it over and get back to us
Samuel Canfield: What was the timeframe for number four? I see it's after the UNM expert panel.
David Wood: The interpretation process would start right away, and the goal would be to wrap that up by March or early April. The more complete expert panel process, the goal is to at least get draft recommendations by July or August. We'd be looking at mid to late

fall, 2025 for a kickoff of the more complete panel. There's always the opportunity that maybe we get an earlier start, but that's my conservative assumption.
Cecilia Lane (in chat): What was the timeline for the credit being available again?
Norm Goulet: We won't be able to get a credit for it until we get through whatever process we end up with. The short process would be if we went with the white paper on the existing BMP structure. If we have to go with a full-blown panel, we're looking at hopefully starting sometime late fall next year, and a full panel usually takes a year, year, and a half.
David Wood: Short term we would aim for March or April for full approval.
Olivia Devereux: That's approval by this workgroup? To get it integrated into NEIEN for planning and crediting towards annual progress would be by August of any year. Getting it into the model for reporting for progress would require another release of CAST which isn't scheduled until Phase 7.
Norm Goulet: Olivia, that's a good point. If we go with the short method, we can definitely hit August of 2025, but if we go the long method, it will be August of 2027, The long method would require going to the WTWG and the WQGIT, which is the downside of going with a full panel.
Olivia Devereux: Agreed, but I think there is some wiggle room since its not adding a full BMP, just updating the runoff reduction practice which isn't a change to the BMPs already in the model, so I think that's great. If we just need a row in the NEIEN table it happens within a year, which is ideal.

Action: David will follow up with jurisdictions that weren't present to finalize the vote on the Biochar BMP interpretation request.

10:50 Proposed Relative Land Use Loading Rates for Solar Development

David Wood, CSN

At the October USWG Meeting, the USWG reviewed a memo which covered available literature and recommended paths forward for developing relative land use loading rates for solar development sites. During the October meeting the USWG asked for more information on the current Mixed Open, Turf, and Suspended Succession land use categories, as potential proxies for Solar Pervious land uses. David presented that information and asked the USWG to make a decision on recommended land use loading rates for Solar Pervious and Solar Impervious.

Decision Requested: The USWG will be asked to make a decision whether or not to support the proposed relative land use loading rates for Solar Pervious and Solar Impervious.

Discussion:

Olivia Devereux (in chat): The relative loading rate for developed pervious open space were taken from the NSWQDB categories Inst./Open Space, Open Space, and Pervious.
Greg Hoffman: There's a lot of work going on to create best practices for solar fields. The main one I'm aware of is decompaction efforts after construction. Is there any way we can account for essentially, a better solar field versus a bad one?
KC Filippino (in chat): Can that be considered with solar BMPs?
David Wood: Greg, I remember you mentioning that in October and it's a good point. We have to have a starting point for a typical scenario and then following the establishment of a baseline it would almost be a BMP that would be applicable just to solar sites. A decompaction BMP would be defined and you'd apply that to the solar pervious land use or solar impervious and move down from the baseline if that makes sense.
Samuel Canfield: I think I need to defer until I can speak more with Dave about this. Correct me if I'm wrong, but with turf grass, the application of fertilizer is an option, right? That's where our values are applied primarily? I don't know for sure, but I wouldn't suspect that solar land would have that same application for fertilizer. Because of that being such a high consideration for nutrient loading in the model, identifying solar fields as turfgrass could cause issues in terms of additional loading that isn't necessarily true. I need to talk to Dave more before I can make a decision for WV.
Olivia Devereux (in chat): We can redo those relative loading rates and recategorize the NSWQDB categories to the Phase 7 land use types. That is easy to do. The TN concentration for "open space" from NSWQDB was 3.34 mg/l. Compare this to commercial which was 5.01 and impervious was 7.55 and residential lawn was 9.7 mg/l. I am sure there were updates since 2015.
David Wood: That makes sense, and that was my struggle with this as well. We don't have a great proxy that falls in between those two categories. You're right; we wouldn't be classifying it as turfgrass, it would be a separate and unique land use, but the loading rate would be established similarly. Do we think that even without fertilizer are we still loading nutrients higher than mixed open, and I think we generally think that we are. There's the opportunity to adjust it down from this as well but understand that concern.
Cecilia Lane: Similarly, I'm going to have to run this through the chain at DC DOEE. Sorry Samuel, but I think it should load like turfgrass because of the compaction issue. I'm surprised to see that the turfgrass loading rates are lower than the other types of vegetation. I also wonder if there could be some level of infiltration test as part of the application because I could see some of these sites started very compacted and succession over time improving their infiltration capacity.
Norm Goulet: The problem regarding infiltration is that they can't allow these facilities to grow wild. That would block the solar panels. They may not have fertilizer applications, but they are managed. I feel Samuel's comments to some extent, because when David sent me the draft, I said we're circling all the way to where we started from, and I felt defeated. We're working with what we have, and I think these facilities are much higher

loaders than what David is proposing having toured some of these facilities. Completely understand the need for people to need to run this up the flagpole; we'd like to make a decision on this at our next meeting.

David Wood: Olivia, I don't know if you want to expand on what you put in the chat. It's good to point out that the relative loading rates came from the National Stormwater Quality database. I spent a lot of time with the Tetra Tech memo that came up and synthesized a lot of those data. I wanted to use some of those in trying to backwards calculate some of these loading rates. I struggled with finding even from there what subcategories to even use for solar pervious or to pull from the open space and turf categories. I don't know if you had a specific suggestion or thought that might work?

Olivia Devereux: You couldn't find it in the memo because I did it. I took the data from the memo and I crosswalked the categories that were from the stormwater quality database for N, P, and S to the land uses that were agreed to for the Phase 6 model and did that with the USWG. You all know best how to map some of those load densities and so with you all's help I crosswalked it and averaged the ones with high confidence and looked at seasonality, location in the watershed, and that was how it was done. I think if you go back to the original data and say 'well these six categories were used to make up pervious and these four were used to make up this other land use,' maybe what we do is back up and say lets go back to the categories from the National Stormwater Quality database and figure out how to crosswalk those. I don't know if they have solar or not, but we could say this is more like solar and pull it out of a pervious category, so we're not double counting the results of those studies. So we redo the mapping and take those concentrations, which are relative, and say 'are they all going to be relative' and then when the model is calibrated they come up with the actual loading rates, but we have the relative differences correct.

David Wood: I think the challenge is finding the specific land use types that would map even similarly to solar, because the categories we were working with at the time were commercial, industrial, things like that. Even before the rolling up to the Phase 6 land uses, they were still broad in a way that they were difficult to compare to the solar land use type. I can take another look at that, but I don't know if we have the breakdowns to get to that point.

Olivia Devereux: There are so many categories in here, I have it pulled up, including transitional. We have the mixes of commercial open, commercial residential, there are a lot of options, but I don't know what the right ones would be.

Greg Hoffman: I'm a little concerned about the impervious side of relating it to buildings and other, just because panels are inherently disconnected. Not proposing we do anything different, but I feel that they function differently than buildings, and therefore I would go for mixed open rather than turf to go for a little less overall loading than developed impervious.

Norm Goulet: On the solar impervious, it's not just the panels. There's a lot of other infrastructure other than the panels. The panel is just like a roof, it runs down the panel and onto the grass.
Greg Hoffman: An important difference is that there's more pervious area relative to say a building of the same square footage. Water runs off the first panel, hits a pervious area, and continues to run along pervious area because the solar panels are not on the ground. So there's more pervious area than in an equivalent building.
David Wood: That was one of the challenges in the literature, evaluating runoff as whole as opposed to separating the pervious from the impervious. One of the takeaways was that there's more disconnection for the impervious, but also the velocity of the water on the pervious is a bit more dramatic. The pervious is loading higher and the impervious is loading lower if you were to combine them, which I think is your point, Greg. If we want to map them distinctly as two different land use types I don't know how you strike that balance when we're not collecting samples off the panels and the ground.
Olivia Devereux (in chat): I see gullies where it runs off around a panel. It is not like they have gutters.
Andrea Krug (in chat): I think it all depends on the angle and the spacing between panels.
Cecelia Lane (in chat): Yes, that was what I was thinking too, much like the UNM panel.
Norm Goulet: This is not going to be set in concrete. Hopefully as some more research comes in, we know Virginia Tech has a big study going on, as we get more refined information, we can refine the loading numbers. We do need some starting place for them though.
KC Filippino: If you're going to reevaluate would this mean the entire relative loading rate range would shift fore everything in between? Because there's a lot of land uses being discussed and I didn't know if the whole spectrum is shifting, in which case there's more coordination to do.
Olivia Devereux: They're all relative within a sector, so you would only need to coordinate with the urban or developed sector. But I don't think it makes sense to leave all the other ones the same and double count some of those categories if we were to move them to the solar land use. Does that answer your question?
KC Filippino: I'm just trying to figure out which goes where, in regards to the parts of mixed open.
Norm Goulet: In theory mixed open is going away.
KC Filippino: Right but everything in there is going somewhere, so if we're messing with one relative loading rate we have to make sure we communicate that.

Action: Jurisdictional members will run the decision up their flagpoles and the USWG will vote at next meeting in December.
Action: David will follow up with Olivia regarding the National Water Quality dataset

Participants

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