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CHESAPEAKE BAY PROGRAM

LAND USE WORKGROUP (LUWG) MEETING

Meeting Agenda
September 18th, 2024
1:00 PM – 3:00 PM

Summary of Actions and Decisions

Decision: The LUWG approved the June 2024 minutes.
Action: Caroline Kleis (kleis.caroline@epa.gov), LUWG staffer, and Marilyn Yang (myang@chesapeakebay.net), HWGIT/FWG staffer, will follow-up with in-person meeting information as it becomes available. Please see the calendar invitation sent by Marilyn on 9/30 for virtual meeting information and to RSVP for this joint meeting.
Action: LUWG leadership will update the group once the 2024 Edition data has been released.
Action: Please reach out to Fred (firani@chesapeakebay.net) with updated MS4 contact information for your state and/or any additional feedback on MS4 boundaries. Fred and WQGIT Staffers will work to send out an email with this formal ask to necessary workgroups and contacts.
Action: Please contact Sarah (smcdonald@chesapeakebay.net) and Caroline (kleis.caroline@epa.gov) with any questions or comments on the Phase 7 timeline and presentation.
Action: The Land Data Team will work with Olivia to determine next steps for changing the application of the Ag Stormwater BMP.
Action: Continue Phase 7 Classification discussions within the various workgroups mentioned, including the Urban Stormwater Workgroup (USWG), Watershed Technical Workgroup (WTWG), Agriculture Workgroup (AgWG), and Forestry Workgroup (FWG), among others:

- FWG will continue to inform the LUWG on their decisions on the roll-up
- LUWG leadership will work with the USWG and WTWG to determine the best place to hold discussion on construction permits.
- Pending other workgroup recommendations, the LUWG will make the necessary determinations on the remaining classes in mixed open.
- LUWG leadership will keep the group updated on relevant Phase 7 decision items in these workgroups and at the WQGIT.

Meeting Minutes

1:00 **Introductions and Announcements** – KC Filippino, HRPDC/Co-Chair (10 min).

- **Decision:** The LUWG approved the June 2024 minutes.
- Announcement: HWGIT Workplan Overview- Peter Claggett, USGS
    - HWGIT has redone their workplan and management strategy with a short-term focus, given the Beyond 2025 efforts. Some key components include an emphasis on a value-added approach and crossover with other groups during meeting time to encourage collaboration and reduce overlap.

- Announcement: Hybrid Joint Meeting with FWG and HWGIT on Monday, December 2nd, from 10:00AM-3:00PM. This will take the place of the December 18th LUWG meeting.

Action: Caroline Kleis (kleis.caroline@epa.gov), LUWG staffer, and Marilyn Yang (myang@chesapeakebay.net), HWGIT/FWG staffer, will follow-up with in-person meeting information as it becomes available. Please see the calendar invitation sent by Marilyn on 9/30 for virtual meeting information and to RSVP for this joint meeting.

1:10 **Update on Release of 2024 Edition**- Steven Guinn, CC (30 min)

Steven Guinn, CC, provided the group with an overview of feedback, updates/changes since the initial release, and internal review efforts that have been taking place. Steven also discussed anticipated publication date and plans for project delivery via ScienceBase.

Discussion

KC Filippino (in chat): Forest over other, is that new?

Steven Guinn: Yes. It's not a new definition. It's just what we are calling tree canopy over other.

Darian Copiz (in chat): How will these changes affect comparison of tree cover to previous years?

Steven Guinn: Because we've made these architectural and methodological changes, our current model is not only running the current time period under these assumptions, but it's rerunning T2 and T1 as well. Then the change is calculated from that complete new model run. This is important when we talk about the deliveries because the file naming is how you kind of know where you are in your data structure. We have the T1/T2/T3 which is also referred to as 2013, 2014, 2017, 2018, and then the 21/22, but we also have the versions which are the 22 edition and 24 edition.

Mark Symborski: One systematic error we saw in Montgomery County was lots of openings and forest area that were categorized as pervious developed other, and I'm not sure why that was happening. I saw some pervious developed other along roads that sort of made sense but maybe those were looking alike spectrally. Is that something that you were able to fix?

KC Filippino (in chat): I saw it in my review and so did others.

Steven Guinn: I did look at that issue, and we'll go back to the local review, but from what I can tell, we have. The idea is that it's low vegetation and there were some reasons why it was going to suspended succession in these large forests. Hopefully the changes rely more on, as Walter Tobler always says, "the things around you that are close are more important". So, we instituted a procedure that said if you're low vegetation surrounded by tree canopy, you're probably natural succession. The gist from the initial outputs is that we've done a pretty good job on that. Maybe not perfect, but we did address that from the data that people looked at during the review period.

Mark Symborski: Ok, that sounds logical. That was actually the solution I was going to think of- looking at what was around and then making some sort of a decision on what it is.

Steven Guinn: That's exactly what we did.

Local Review Results

Olivia Devereux: Is the correction to turf grass or from turf grass for that first one?

Steven Guinn: To turf grass.

Olivia Devereux: Do you know off the top of your head what most of those were mapped as and should have been turf grass?

Steven Guinn: These were things that were correctly flagged as incorrect. They were incorrectly called something else and there was a proposed correction. I've not looked at every one of these points, but I didn't disagree with any review point I looked at except for land cover ones. I agree with those, but there's nothing I can do about it. I feel like the review was done very well.
Young Tsuei (in chat): Will there still be a web service?
Katie Brownson (in chat): Are the results of the accuracy assessment going to be available this fall as well?
KC Filippino: Everybody was comfortable with the data from 13-14/17-18, and now you rerun your model. There are going to be some changes. Is there going to be anything that tells us how much that data changed, based on model updates?
Sarah McDonald: Yes. In the documentation released on ScienceBase, we'll compare acreages of each land use for the 2017/2018 timeframe for both editions. So, we can look at one timestamp, compare what was released two years ago to what's released this time, and see those differences.
KC Filippino: Ok, and Katie asked about the accuracy assessment.
Steven Guinn: One of the deliverables will be a land cover accuracy assessment. This will be judging the accuracy of the land cover which is very important because the accuracy of the LULC is highly dependent on the accuracy of the land cover. In terms of the accuracy of looking at the review points, there will be a report on what that looks like, but it won't be considered an accuracy assessment because all the review points are highly biased. For example, we didn't have anyone record where we did things right in that data set, so that makes it virtually impossible to perform an accuracy assessment based solely on those points. It was never part of the project scope to do an accuracy assessment like they're doing on the LULC model. What we do put together with the local review and how the changes were affected will be available. If nothing else, it will be a PowerPoint presentation that would be made available even if it's not presented by the conservancy.
KC Filippino: The data products themselves will be available at the end of November. When will all these documents be available?
Steven Guinn: All at the same time. When it gets released in mid-November, ScienceBase will be hosting the documentation and the data, and the web viewer will be working in its new updated fashion. The only real change is that, instead of just downloading the data from the Conservancy, you'll just be downloading the same data. All the forward-facing publications will all be released at the same time.
Katie Brownson: You said there is a formal land cover accuracy assessment. Is that going to be available with the rest of the data release in November?
Steven Guinn: That is our intention. That's one of the things that we are doing with UVM, so it's not completely in our timeline. We at the CIC have made it very clear that we want all the products done before the release. I just can't guarantee it. Even though the data is not being released until November, the CIC's intention is to wrap this up by the end of this month. We also did have some internal stuff that we aren't releasing, which are lessons learned, things like that. The ScienceBase documentation will have the tables, and it will tell you the data uses. It's going to be a very insightful document in terms of the decisions and effects.
KC Filippino: I know we're excited to have it completed. I appreciate you taking the time to go through the review period because it's very important. One quick question on the review. That was based on points entered, correct, not necessarily individual responses from localities?
Steven Guinn: The points were part of the responses. It was points provided by the localities. We read all the comments. The final review will include all those comments. Those tables were

a pretty succinct compilation of what those comments were saying, which was get the turf grass right and stop mistaking crops as pasture.
Dave Montali: I'm curious about what will change. I think people in more developed areas said there's not enough turf, and there's too much pervious developed other. Whereas, in rural areas, I looked at it as this is good. You got the turf limited closer to the structure and the pervious developed other is a good improvement. So, when you go to make rule changes, will you look in terms of the environment you are making these changes in?
Steven Guinn: Absolutely, and honestly it was a pretty low hanging fruit. We just limited it to the parcel side and the amount of structure impervious there. What happens is that, in the bigger rural areas, you might have some turf around the structure but then it changes over to pervious developed. The biggest issue we have is that the parcel data set is not very reflective, and there were a lot of issues where you have three parcels that obviously represent two residences, so the back parcel would cover two back yards. It would not have any structure, and it would want to be called pervious development even though it's very obvious it's part of these buildings' yard, and they should just all be turf. But that's something to do with the parcel data set.

Action: LUWG leadership will update the group once the 2024 Edition data has been released.

1:40 **Overview of MS4 Boundaries**- Fred Irani, USGS (20 min)

Fred Irani, USGS, provided the group with a short presentation on the work being done to update Municipal Separate Storm Sewer System (MS4) boundaries. Time was given for the group to ask questions and provide feedback.

Discussion

KC Filippino: I don't know if we have all the points of contact here. We might have to update this list accordingly.
Bryant Thomas: If you're looking for a point of contact at the state agency like DEQ, we can get a point of contact for you. What I saw on your map for Virginia, it looks like there were a lot of gaps or a lot of missing details there. Between some folks here at VADEQ, and Norm and KC, I think we can help get you a more complete update on the MS4s in Virginia, at least.
Fred Irani: I'll be contacting every point of contact, every state, again.
Bryant Thomas: I can work to get a point of contact but, in the meantime, you can use my name as a contact to at least get us started so you have somebody.
KC Filippino: Thanks, Bryant. I think having a DEQ point of contact would be good.
Cassandra Davis (in chat): NY contact is up to date
Scott Heidel (in chat): PA is correct
Shannon McKenrick (in chat): MD will need an update - I'll send Fred an email. For MD, Nicole Christ has moved on from MDE so it will likely be me as point of contact going forward.
Bryant Thomas (in chat): bryant.thomas@deq.virginia.gov
Jamie Eberl: I'm the contact for Pennsylvania. What is it that you're asking for? A list of municipalities that require permit coverage? A shape file?
Fred Irani: Ultimately a shape file, if you have it, or some information for us to create a shape file if you don't. Preferably you provide us with shape files for the MS4s that weren't in the most recent release.
Jamie Eberl: We're basically relying on EPA's automatic designation criteria.

Fred Irani: That's what I see, that the permit update will rely on census urban areas and EPA guidance for mapping, and that needs to be clarified, whatever that is.
KC Filippino: In Virginia, our service areas are delineated. If they relied on the census urban areas, they are very large, so our localities delineated a long time ago. Those are in their permit requirements and to have these updates. That's why, in Virginia, it says the specific date associated. Every state is different, and I think that was the key to this discussion to recognize that everybody's different. How that data is compiled and collected is going to be unique.
Cassandra Davis (in chat): Here is NYs most up to date MS4 layer: https://data.gis.ny.gov/datasets/2cd864d1a65d4401866e3767ac10ca50_0/explore
Fred Irani: I don't know what that means for Pennsylvania. They are relying on EPA guidance, so are they just going to take the census urban areas and call those MS4s?
Jamie Eberl: Yes.
Fred Irani: So there will be no combined sewage?
Jamie Eberl: There are some places where they have a combined system and an MS4, so that CSO area is just cut out of the permit requirements. Their permit is only for the separate areas.
Fred Irani: What they cut out, do you have the shape files of those CSOs?
Jamie Eberl: We don't have that combined into one shape file. We have individual maps for all 1,056 permittees, but those are all on paper.
Fred Irani: Ok. So they didn't edit the shape files?
Jamie Eberl: Each permittee would've done that on their own and they were not required to submit GIS documentation, so we didn't aggregate that into one shape file. We just have paper maps from everyone.
Fred Irani: Is it fair to say that the PA data to date would be lacking CSO information?
Jamie Eberl: I can follow-up with you later and try to get you some maps to show you an example of what I'm talking about. That may be easier.
Marty Hurd: In the graph Fred showed, Fairfax County seemed to be underrepresented. Within the county, I think Fairfax is the largest MS4, but we have several others like some Phase 2s, and of course VDOT has some area as well. When we delineate our area, we are very careful to note where our neighbors are and not include their area. It sounds like the flow of information I heard is that MS4s will provide their service areas to DEQ, and DEQ will provide them to Fred? I'm just curious, is that about 100 MS4's that would be submitting these things that are all going to be merged into one larger area? Is that approximately the process?
Fred Irani: I don't know who can answer that.
Bryant Thomas: I don't know if this is the forum to have this conversation or not, necessarily, because we are talking Virginia specifically, and I'm not in the MS4 program. I don't want to make a commitment for something that we might not have resources or expertise to do. One of my questions is what is the timing for which you are looking to have updated shapefile information? Is it next month? Next year?
Fred Irani: I was hoping to get updates by the end of November, but that's negotiable. Different states are going to deliver at different dates, depending on what's going on with them. We can work on some changes while others are pending. It kind of makes carving this into stone kind of difficult. This is just a template for what needs to be done. I was assuming states have their data and they just need to cut and paste it to me.
KC Filippino: In theory they do. What I want to suggest right now is that an email needs to go out with an actual ask, these dates, and it needs to go out to both of these groups, plus the list you provided. Then you'd probably have to talk one on one with each state, because everyone is

so different in this. I think it's important we've gotten awareness now, and maybe it's just time to drill down to who is the point of contact for each state.
Dave Montali: The WV guy is a permit guy. He might not understand the Bay Program very much, so CC Samuel or myself so we can be liaisons.
KC Filippino: If you feel like you should be contacted by Fred, please put your information in the chat.
Bryant Thomas (in chat): My last observation is that compiling this information by November may be unreasonable given the status in certain states.
Cassie Davis (in chat): Please cc Cassie Davis Cassandra.Davis@Dec.ny.gov for NY
Samuel Canfield (in chat): Please cc Samuel Canfield WVDEP samuel.a.canfield@wv.gov
Dave Montali (in chat): Please invite Dave Montali to MS4 discussion dave.montali@tetratech.com
Norm Goulet: We need to have a state specific discussion with Fred on this, and Bryant needs to pull in somebody on this from DEQ. There's been a lot of staffing turnover there and that's why I somehow got tagged as the VA rep instead of someone in DEQ. The reason why it's staggered is because we have Phase 1 and Phase 2s, and they are all on different schedules. The vast majority of the Phase 2s will be having something submitted to DEQ by January. The question is then whether or not DEQ has the resources to send this information to the Bay Program.
KC Filippino: Yeah, November could be a tricky turnaround.
Fred Irani: It sounds like it definitely is. Maybe I should just go to the end of the year or into January. Once I get information like Norm just gave, then I can put this into a more realistic and firmer Gantt chart.
Jeremy Hanson: Just a suggestion when the email goes out to include the Wastewater Workgroup members because, if Fred's looking at the CSOs and the separate and combined sewer areas together, then it would be good to have them copied.
Fred Irani: Do you want me to do that?
KC Filippino: If you can craft an email, we will work with the staffers of these workgroups to get the information out. How's that? Craft that and send it to myself and Caroline.
Fred Irani: I'll make a generic one, and maybe there should be some tweaks for individual states.
Cassie Davis (in chat): Are we updating CSO's as part of this?
Marty Hurd: The discussion was specific to MS4s, but there are other regulated areas in Virginia, like VPDES permitted areas, that are not MS4s. Is that intended to be captured? Are you going for regulated area or just MS4s?
KC Filippino: I would not include the NPDES or VPDES permittees.
Bryant Thomas: Is this going to be updating CAST? Or is it going to be updating with Phase 7, or all the above?
Fred Irani: It's just updating the footprint as far as I understand.
Olivia Devereux: None of this is going into the current version of CAST. It will probably get used for Phase 7.
Bryant Thomas: It comes down to the timing to get this done. You had mentioned August or September next year, and I didn't know what was driving it.
Fred Irani: I put it out there as hopefully feasible. If it's just not feasible, then we need to punt.
KC Filippino: Yeah and, to Cassie's question, this is updating the footprint for the CSOs and the MS4s if data is available, because there were some errors we've all seen in Phase 6, and we had to do some fuzzy math to correct it in Virginia. So that's a little bit of background.

Action: Please reach out to Fred (firani@chesapeakebay.net) with updated MS4 contact information for your state and/or any additional feedback on MS4 boundaries. Fred and WQGIT Staffers will work to send out an email with this formal ask to necessary workgroups and contacts.

2:00 **Phase 7 Modeling: Classification Discussion** – Peter Claggett, USGS (55 min)

Peter Claggett, USGS, continued the Phase 7 classification discussion from the June 26 LUWG meeting, reminding the group of the timeline and intended schedule of decisions. The group worked to determine a path forward for suspended succession and its function in the Phase 7 model.

Discussion

Sarah McDonald: Beyond getting it posted, are there any other questions around the timeline before I move on?

KC Filippino: The septic modeling piece. I did have a conversation with Peter about this. I'm hard-pressed that this sits with the LUWG. I think we need to have a conversation with the WWTWG because smart sewer expansions, sewer sheds, septic, all that data, should lie with that workgroup in my opinion. But, if anything, they should be added to the list, not left off.

Sarah McDonald: So, in your opinion it should be their decision, not LUWG, but at the very least, a combination?

KC Filippino: Yes, that's my two cents. I've seen this before so it's not really fair, but if anybody else has comments on their quick review of this, you can chime in right now.

Dave Montali: I agree with your comment about Wastewater Workgroup relative to septic and sewer sheds and Sarah's previous comment about including the USWG in the mixed open.

Jeremy Hanson: This is a good teaser for what Auston's going to present on at Monday's WQGIT call. Some of the details on these are still up for debate like what workgroups are involved, the technical review, what we mean by approval. I see a lot of WQGIT listed later on, and I don't expect by default the WQGIT is going to be a line-item approval for everything between now and when Phase 7 is done. But there will certainly be efforts to make sure that we try to package these things and bring them at least up to the GIT for awareness. The details are still TBD for a lot of these.

Katie Brownson (in chat): Doesn't look like this is a LUWG item, but we may want to add reporting harvested forest on fed lands to the reporting ag on fed lands task

KC Filippino (in chat): Is that different than reconciling mapped and backcast TH w/ reported TH?

Katie Brownson (in chat): Yes- it is a federal facilities issue specific to "eligible" federal land uses.

Dave Montali: Why do we only have extracted impervious and extracted barren if we are using some ancillary data set to say this is a mining operation? Wouldn't there be some extractive herbaceous land within those boundaries, or how is that dealt with now?

Sarah McDonald: The way that we map it in the high-res, within those boundaries, there is vegetation. We treat that as suspended succession. If that's a recommendation to change for the next edition later, we can talk about it, but that's currently how we're mapping it.

Dave Montali: When I see suspended succession, I've also got to add in my mind extractive herbaceous, right, to that list of things that make up SS?

Sarah McDonald: Yes.

Mark Dubin (in chat): Where are agricultural buildings and livestock production areas categorized for P7? Thank you.

Peter Claggett (in chat): They are not explicit in the land use. We tried to map them but failed. We're going to try again for the 2025/26 data.
KC Filippino: Can you go back to the classification slide? Mark Dubin asked a question about ag buildings, and I think it should be in there, but I don't see it.
Norm Goulet: They go into impervious non-roads, and they're typically structures. They all get rolled up into developed, believe it or not.
Samuel Canfield (in chat): How is Solar Infrastructure different from Impervious, Non-Roads? Solar Pervious different from Compacted Pervious?
Peter Claggett (in chat): The USWG will develop unique loading rates for solar infrastructure and solar pervious.
Samuel Canfield (in chat): Thank you! I do understand that, but what I mean is in logical sense. The Solar Infrastructure is impervious similar to a house on a landscape, and the Solar Pervious can be or is likely as compacted or more than Suspended Succession.
Peter Claggett (in chat): Agreed but it depends on how the USWG wants to approach this. For example, tilting solar panel arrays could be treated differently than fixed arrays- or spacing could be a modifier. If they go that route- the details would likely have to be reported by the solar facilities because we can't detected such nuances in our maps.
Olivia Devereux: I'm glad the question was asked because the BMP for Ag stormwater does not go on a developed land use, it goes on an ag land use. So that seems kind of problematic to me that we're treating a load from the wrong land use.
Mark Dubin (in chat): It would seem we need agricultural developed land use.
Norm Goulet: The way it's been explained to me by Peter is that they don't have the ability to extract it out between, let's say, urban developed and ag developed.
Olivia Devereux: That's fine. Then we just need to change what the BMP is applied to.
Norm Goulet: Yeah.
Olivia Devereux: The way it works right now is the states report the acres that were under construction. They all do it a little bit differently, which is problematic, but generally it's intended to be a three-year rolling average of what's actively under construction. People pull that from the NOI permits, and that's where the erosion sediment control BMPs go. If we map it, then the states are going to report their ENS BMPs, and they may or may not have enough acres to put them on. I don't know how that's going to work, but I anticipate some issues. The same is true with harvested forests. The states report the acres that the harvested forest BMP goes on, and it's usually exactly the same as the acres of harvested forests that the states report. They report the acres by August 31st of each year and then the BMPs by December 1st. That's the same situation for both harvested forest and construction. So if they're mapped, I'm not sure it's going to work the way the states expect. I just wanted to put it out there as something we need to think about, and the partnership side needs to decide how to handle.
Sarah McDonald: That's a great point, Olivia. We had a Harvested Timber Task Force that Peter and I have worked with that's been led by Katie Brownson. We've talked a lot about this, and they've kind of come up with a plan. Generally, what we're going to do for harvested forest, which I am hoping will be true with construction, is we are not mapping as much as what's going to be reported. The plan is to use where we have our data to spatially allocate within the county where the reported acres go. For whatever's remaining for harvest, the forest for example, we'll then say well we mapped 50 acres. We reported 100 acres. Let's put the 50 acres that we know where they are there and the remaining 50, we'll look at remaining large forest patches. I imagine we'll do something similar with construction, but the idea is to only use the

values in acres that are reported and just use the high-res footprints where available, to try and spatially allocate them on the land within a county.
Olivia Devereux: I think I'm following you now. What if the states report the extra 50,000 that you didn't map as a BMP, and they just say that it's at a state scale? Where will it go on a map? This is something that happens every year. Y'all only do the land use every few years. So, we need a method to handle this for every year.
Sarah McDonald: We do have other projects that are spinning out. The backcast from '85-2013 will be annual. The next agreement will start in October, and one of those tasks is to annualize. For every month, season, and year, we will have spectral indices, including fractional tree canopy, fractional impervious, fractional water, etc. We'll have these time stamps at a 10-30 meter resolution, pretty much in real time, that I think we'll be able to use to make some of these distinctions. I agree, the methods and plan need to be developed, but we will have a higher temporal resolution of slightly spatially coarser data to aid with the timing of what we're seeing in the high-res.
Darian Copiz (in chat): Why is there a need to get rid of natural succession? It does seem to be substantially different from forest and potentially may take quite a while to actually succeed to forest, or sometimes may not.
Peter Claggett (in chat): Because it's a lot different than road rights of way and reclaimed surface mines
Darian Copiz (in chat): but also a lot different than forest
Peter Claggett (in chat): That could be- it'll be discussed at the December FWG/LUWG/HWGIT meeting
Katie Brownson (in chat): It may be that the FWG will want to have a separate natural succession class to account for the hydrologic functioning of mature forests- additional discussion is definitely needed
Mark Dubin (in chat): The base loading values between urban developed and agricultural developed would seem too different to lump together, plus the application of BMPs to address those different loads.
Dave Montali: The state reported data has to be honored and, as long as you get it in the model, then you won't have the BMP cutoff issue. The way I'm understanding it is that bare construction and harvested forest, mapped, will both be likely less than reported. So, we need an algorithm to take it from the mapped stuff first and then take it from something else to honor what the states submit. One thing I heard you say, Olivia, was that three-year average. I don't think that's true on construction. I think it's annual amount every year of concurrently disturbed acres.
Olivia Devereux: That's what West Virginia does, but not all the states, and it's kind of the Bay Program's fault. There's not been clear guidance on which it should be, so we just need to make sure it's clear for Phase 7.
Dave Montali: Ok, and those are other considerations for these teams that are figuring out how to do the reconciliation.
Peter Claggett: We do a pretty good job with harvested forest. We capture all the clear cuts, and why we think it's usually an underestimate is because we can't capture the selective cuts. Like in New York it's all selective cuts, and we can't see that at all. When it comes to construction, we're mapping just the barren disturbed portion of a construction site, and typically it's reported as permitted area or active area within the permit area. We haven't done the comparison yet, but we're expecting that it is going to be a subset of that, but we'll have to develop an approach that is capable of handling all situations.

Dave Montali: That's a good point. I guess there is an outcome where the state reported data for a county is less than the mapped data, and we'd have to say this is what you do in those cases.
Peter Claggett: Comparing reported data with mapped data, even though you are comparing apples and oranges, that exercise really helps you understand the limitations of both. I think it's going to be helpful to the Bay Program, overall, to really understand the relationship between what's reported as construction and what's mapped as construction.
Dave Montali: Last conversation I had with Jeremy McGill, he said we can give you fairly accurate polygons of this harvested forest that we report every year, that we summarize into acres by county, and there might be a learning process. Should I talk to him about making that part of the submission long term, or not?
Peter Claggett: Sarah's been getting polygon data from all the states, so I think we already have that.
Sarah McDonald: We get that for mapping in the high-res, right? But those polygons are generally representative of permitted areas. So we, if there's still trees, will not map it as harvest because there's still a tree there. But that could be where thinning is happening that we're missing. So, if we have spatial data and are considering where the acres that are reported that we did not map are, that is an additional layer of data that we aren't currently using for that. If we're going to finer scale modeling, it might be worth looking at.
Katie Brownson: Jackie made some really fantastic graphics showing our proposed approach. We did a preview at the Forestry Workgroup, and they've kind of already signed off on this approach, but we didn't have the graphics at that point. We could do another walkthrough at the joint meeting in December. Gary Shenk also suggested that we bring it to the WQGIT for awareness, and I imagine there will be more behind the scenes work that needs to happen with Olivia, the CAST team, and the modeling folks to figure out how to do it. But the approach, we've spent a good amount of time walking through and doing that exercise of comparing mapped data and reported data and FIA data. Happy to share more if folks are interested.
KC Filippino: I certainly am interested. There's a lot in the chat. I want to go back to the conversation Mark brought up about ag versus urban structures.
Mark Dubin: Olivia touched on this before, but we are looking at different loading rates. How we apply those BMPs for those agricultural production areas, those are pretty important BMPs for the jurisdictions. Having a clear indication on what's there and what we're applying as BMPs is going to be of importance to the partnership for Phase 7. I don't know how we go about this, but I think lumping it into one category with urban developed is probably not going to be an avenue that's going to get a lot of support from the agricultural side of things. Happy to talk through that with Peter and see what options we might have going forward, but I understand he's having trouble trying to dissect those from the visual aspects of the remote sensing.
Peter Claggett: I am more disappointed than anyone that we couldn't successfully use machine learning yet to map animal operations. There are so many different configurations that it's complicated to detect. We could use the ag census. What's the category like land and structures, buildings, right? There's an acreage associated with not just animal operations, it's like all agricultural structures?
Mark Dubin: Yes. A headquarters area is what its usually referred to in the ag census, so it includes all of those types of structures and the like. I don't know whether maybe it's creating an agricultural developed land use to try and separate that out, not trying to do livestock versus non-livestock, but I think just keeping it in urban is going to be problematic.

Peter Claggett: What one could do is take it from urban, from the portions of a county that are mostly ag. Take it from developed where you have mostly agriculture would be kind of a similar approach to if we had actually mapped it.
Mark Dubin: I think those are the sort of discussions we probably need to think about having and probably something that needs to be extended to the Ag Workgroup to get their input.
Peter Claggett: Yeah, let's tee that up.
KC Filippino: I also want to acknowledge Samuel's discussions about solar. This is something that the USWG is trying to tackle. Figuring out where solar pervious and solar infrastructure falls on that loading rate scale is going to be tricky, especially with not having as much information as we probably should have. Right now, we just have it separate until we learn more. So stay tuned for that, and I encourage you to come to the Urban Stormwater Workgroup Meeting that's going to have that discussion. Going back to Sarah's original request about the timeline and about these specific classes for mixed open, does anybody have any particular heartburn with how things are now, knowing that this is going to be discussed further at other workgroups?
Olivia Devereux: There's a BMP, tree planting, that changes things to tree canopy over something, and it can go on either impervious or turf grass. I don't know how we are going to split it out. We would split it out between the three items under number three and the one item under number five. We need to figure that out, that's just something else to put on the list of things to address.
KC Filippino: But they would roll up? It doesn't matter which one underneath those it goes under. Is that accurate? So if the tree is planted over impervious, that would be where it applies, correct?
Olivia Devereux: Right, so we wouldn't have the 23, 24, and 25 in CAST, so that's cool.
Peter Claggett (in chat): Tree planting should be applied to compacted pervious too- because autumn olives are planted on reclaimed mine lands. Thanks to AI: Autumn olive (Elaeagnus umbellata) is a shrub that can thrive on reclaimed mine sites and is an invasive species in many areas
Mark Dubin (in chat): Tree planting also applies to agricultural land uses.
Katie Brownson (in chat): It is a good point that there is a lot of reforestation happening on former minelands that I don't think is probably creditable with our ag tree planting practice.
Olivia Devereux: That's a lot of detail, and I'm not sure how popular Autumn olives are. We'll have to check how mixed open is used in the BMPs, too, so that we make sure that it makes sense to have anything that converts land to mixed open to now make it compacted pervious. There are a lot of BMP considerations we are going to have to look at and we'll have to take that to the Watershed Technical Workgroup and then maybe come back to this group. I'm not sure how you want to handle that.
KC Filippino: That's a good point. We can just keep you in the loop, too, with specific questions, because this is all going out to various workgroups at this point.

Action: Please contact Sarah (smcdonald@chesapeakebay.net) and Caroline (kleis.caroline@epa.gov) with any questions or comments on the Phase 7 timeline and presentation.
Action: The Land Data Team will work with Olivia to determine next steps for changing the application of the Ag Stormwater BMP.
Action: Continue Phase 7 Classification discussions within the various workgroups mentioned, including the Urban Stormwater Workgroup (USWG), Watershed Technical Workgroup (WTWG), Agriculture Workgroup (AgWG), and Forestry Workgroup (FWG), among others:

- FWG will continue to inform the LUWG on their decisions on the roll-up.
- LUWG leadership will work with the USWG and WTWG to determine the best place to hold discussion on construction permits.
- Pending other workgroup recommendations, the LUWG will make the necessary determinations on the remaining classes in mixed open.
- LUWG leadership will keep the group updated on relevant Phase 7 decision items in these workgroups and at the WQGIT.

2:55 **Wrap Up and Review of Actions/Decisions** – KC Filippino, HRPDC/Co-Chair (5 min).

NEXT MEETING: Virtual and In-Person Meeting on December 2, 2024, from 10:00AM-3:00PM.

Participants

Caroline Kleis, CRC
Sarah McDonald, USGS
KC Filippino, HRPDC
Steven Guinn, CC
Mark Dubin, UME/CBPO
Brenda Morgan
Samuel Canfield, WVDEP
Dave Montali, TetraTech/WV
Tyler Trostle, PA DEP
Andrew Gray, Carroll County
Lori Brown, DE DNREC
Darian Copiz, MD DEP
Deborah Sward, MDP
Scott Heidel, PA DEP
Bryant Thomas, VADEQ
Ellen Egen
Kristy Woodall, VADEQ
Krystal Reifer, MCEP
Louis Keddell, CC
Andy Oetman
Jeff Sweeney, EPA
Shannon McKenrick, MDE
Helen Golimowski, Devereux Consulting/CBPO
Ashley Hullinger, PA DEP
Elaine Webb, DNREC
Marty Hurd, Fairfax Co.
Norm Goulet, NVRC
George Doumit, DE
Supriya Khadke, NOAA
Young Tsuei, DC DOEE
Katie Brownson, USFS
Sarah Brzezinski, CBPO
Mark Symborski, MCPD
Marilyn Yang, CRC
Jamie Eberl, PA DEP
Allie Wagner, NVRC
Rob Hirsch, Baltimore County
Fred Irani, USGS
Eugenia Hart, TetraTech
Peter Claggett, USGS
Emily Beach
Cassie Davis, NYS DEC
Camille Liebnitzky
Ruth Cassilly, UMD/CBPO
George Onyullo, DOEE
Jackie Pickford, USGS
Jeremy Hanson, CRC
Scott Crafton
Derick Winn, VA DEQ
Olivia Devereux, Devereux Consulting/CBPO

Acronym List

CBP: Chesapeake Bay Program
COB: Close of Business
CRC: Chesapeake Research Consortium
FWG: Forestry Workgroup
HRPDC: Hampton Roads Planning District Commission
LULC: Land Use / Land Cover

LUMM: Land Use Methods and Metrics Outcome
LUOE: Land Use Options Evaluation Outcome
LUWG: Land Use Workgroup
MDP: Maryland Department of Planning
NVRC: Northern Virginia Regional Commission
SRS: Strategy Review System
VA DEQ: Virginia Department of Environmental Quality
USGS: United States Geological Survey
USFS: United States Forest Service