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CHESAPEAKE BAY PROGRAM LAND USE WORKGROUP (LUWG) MEETING

Meeting Agenda
June 26, 2024
1:00 PM – 3:00 PM

Summary of Actions and Decisions

Decision: The LUWG approved the March 2024 minutes.

Updated Action Item: Please review Chesapeake Bay Program's 1-meter Land Use/Land Cover (LULC) data using the [2024 Edition Land Use/Land Cover Data Review Application](#) and [2024 Edition Land Use/Land Cover Data Review Application Instruction Documentation](#) by August 2, 2024. See the email sent on July 9th, 2024, by Caroline (Kleis.Caroline@EPA.gov) for additional details and information on walkthrough and Q&A sessions hosted by the Chesapeake Conservancy.

Action: Members are asked to reach out to LUWG leadership if they would like to present a relevant case study on the usage of land use/land cover data at a future meeting.

Meeting Minutes

1:00 **Introductions and Announcements** – KC Filippino, HRPDC/Co-Chair (20 min).

- **Decision:** The LUWG approved the March 2024 minutes.
- Status update on the new cooperative agreement
 - RFP due July 19, 2024
- GIT Funding
 - Funded projects update
- SRS Update from Peter Claggett, USGS
 - Updates on the Land Use Strategy from SRS/QPM Meeting

1:20 **Update on Release of 2024 Edition**- Steven Guinn, CC (15 min)

Steven gave an update on the 2024 edition for the LULC data project, including an overview on the local review process and timeline, and major updates on accuracy improvements.

Discussion

KC Filippino: Any questions about the timeline? I want to make sure that everybody, especially the jurisdictions or anybody with ties to local government, has been contacted and that the conservancy has the appropriate emails.

Steven Guinn: We took our contacts from last time and Katie, Patrick, and I have been working on drafting the letters. We started about a month ago on contacting people. I believe everyone has gotten back to us that needed to.

KC Filippino: Hopefully this isn't new to folks in the work group that this will be coming out for review.

Dave Montali: I don't think I've seen anything, personally. I hope that my name is on the list. I

think Samuel is West Virginia's official rep, so he may have been advised. I just want to make sure I have an ability on July 8th to be prompted that it's out there and can sign on.

Supriya Khadke (in chat): Would others be able to join in on the review process?

Katie Walker (in chat): Yes! We welcome all reviewers.

Supriya Khadke (in chat): Thanks Katie!

Katie Walker: Dave, we did work with Sam to review the local contacts for the jurisdiction, but you are on our full email list and will be a part of that review. Everybody who is a member or an active participant in the Land Use Work Group will be receiving an email from Caroline, as well. Supriya, I saw that you put a comment in the chat. The application is open for all users. So, while we have direct communication channels with our local/state contacts and a couple of folks across the years that we know of as active users and we welcome their feedback, it is an open application. Anybody who gets it can share the link as broadly as they would like.

Deb Sward: Thanks very much for the update on this. It's good to know that you will be reaching out directly to the counties as well. I just had a quick question in terms of the final product. So, the application primarily reviews the updated Land Use Land Cover Data for the vintage date that's being published. In terms of the final product, will that include the land use change information from 2013, to 2018, to 2021? I was hoping for a reminder on what the final package would include.

Katie Walker: The final package of data includes new data for T3, which is 2021 and 2022. It will also include updated data for the two previous time steps that have already been mapped. The change data will reflect changes from T1, to T2, and T3.

Deb Sward: Will those changes be tabulated in spreadsheet form, or tabular form in addition to the GIS piece of it, and would that be by county, or state?

Katie Walker: Both. If you remember the change matrix that came out in the 2022 edition, we intend to utilize those same matrices, just updated, and there will be tabs reflective of the time periods reflected.

KC Filippino: Katie, is the change T1 to T2, T2 to T3, T1 to T2, T1 to T3, all of the above?

Sarah McDonald: We are going to have T1 to T2, T2 to T3, and T1 to T3.

KC Filippino: One last question- in years past, you guys have done a webinar. Will you be hosting anything like that this time?

Katie Walker: Yes, we will.

KC Filippino: Any idea of the date?

Katie Walker: Webinar for which aspect?

KC Filippino: Oh. I think you did a webinar on just the how, to review.

Katie Walker: I'll leave it up to the workgroup here if folks feel the need for us to refresh and host something. We certainly can host something in that first week and we can send out a time that works for us. We can record it if people can't join us. But the Stakeholder Review App has not changed since when folks were asked to review the 2022 edition. So, if we have a lot of new reviewers, or folks anticipate wanting that refresher, we'll absolutely be available and do that walkthrough.

Peter Claggett: Katie, you guys have the video explaining everything, right? So, I don't know if you'll need a webinar.

Katie Walker: Yeah, in the instruction guide there's an accompanying live recording that we did the last time. So that's available. But, if folks want it, we'll do it.

KC Filippino: Well, I can ask now- is there a strong request for the webinar? I feel like it's straightforward, but I've been through it before. Anybody?

Arianna Johns: I think it would be a good idea to have a webinar, at least so our localities can ask questions.

KC Filippino: Hearing the Virginia DEQ definitely thinks it's a good idea, I think we should lean towards maybe doing it.

Katie Walker: Like I said, what we can do is just set aside a time in the first week of July that will be live online. We can call it like a live walkthrough and Q&A session. If folks are interested, they can join in, and we'll be available to answer any questions during that time period. So, I think that will be pretty easy.

Update Action Item: Please review Chesapeake Bay Program's 1-meter Land Use/Land Cover (LULC) data using the [2024 Edition Land Use/Land Cover Data Review Application](#) and [2024 Edition Land Use/Land Cover Data Review Application Instruction Documentation](#) by August 2, 2024. See the email sent on July 9th, 2024, by Caroline (Kleis.Caroline@EPA.gov) for additional details on walkthrough and Q&A sessions hosted by the Chesapeake Conservancy.

1:35 **Review of EPA-Conservancy Geospatial Assistance Cooperative Agreement** - Katie Walker, CC (40 min)

Since 2018, the Conservancy has been collaborating with CBPO through a cooperative agreement with EPA. As this agreement comes to a close, Katie updated the workgroup on other activities from their Cooperative Agreement, including hyper-res hydrography mapping, support for BMP planning and reporting, and cross-GIT mapping needs.

Discussion

Mark Symborski: One thing that would really help local jurisdictions to identify and prioritize potential stream buffer restoration projects, would be the ability to screen out likely ephemeral streams from the network. Is there any way that function could be built into the high-resolution hydrography? Then you would be left with a stream network that you could then look at your potential buffers.

Katie Walker: I absolutely hear what you are saying there, Mark. What I would offer is stream low permanence was something that we were very interested in exploring. We did a lot of research during these 6 years, but, unfortunately, the data for needing to create that attribution, we weren't able to complete. We have a lot written up and shared with our collaborators at the Bay Program. I believe that is a core component of work moving forward. I know that is already something that EPA is looking to fund as it is part of that notice of funding that was mentioned earlier.

Peter Claggett: USGS has funded University of Maryland, Baltimore County, Matt Baker, over this past year to explore stream flow permanence metrics and the EPA now has this notice of funding opportunity that will include hyper res streams with a probabilistic measure of stream flow permanence. It's not exactly what you asked for, Mark, in terms of categorically these are ephemeral, these are perennial, etc. But, because that's a condition that changes with variation in climate and could change for other purposes, we figured a probabilistic measure, which would enable jurisdictions to kind of slice and dice as you see fit, might be more useful and flexible.

Cassandra Davis (in chat): I could see the hyper-res streams being an important resource for fish passage in addition to BMP implementation.

Mark Symborski: Yeah, that sounds good. Actually, I use the term likely ephemeral streams. I realize it's impossible to take a map like that and say these are definitely your ephemerals and, yes, things do change with climate and seasons and things like that. Something probabilistic that would give somebody a handle to screen those out and kind of some criteria for setting

confidence in doing so, seems to be what you're hinting at. A tool like that would be very useful.

Peter Claggett: Yeah. That's great to hear, thanks.

Young Tsuei (in chat): This would be interesting to see how it shows the streams in DC and where undercut and fish blocks are. It may also be helpful for our ongoing Rapid Stream Assessment activities.

Katie Walker (in chat): Thank you for sharing this interest. We will make sure you are on the list to get updates as we roll out this data later this summer.

Katie Walker: Cassie mentioned that she could see that the hyper res streams could be a really important resource for fish passage, in addition to BMP implementation. I absolutely agree. We're very much looking forward to the rollout of this data. I don't think the Bay Program fully understood or realized how many different use cases there could be for the land use land cover data until it was out in the world. We are looking forward to getting the hyper res stream data out there so we can hear more about how people are using it. I'm sure that the Bay Program is very interested in ideas like that again, so they can plan for future investments.

Mark Symborski: Peter and Katie, any idea when that additional work regarding ephemeral streams might be done? Do you think it is likely that would get funded and, if so, do you have an idea, very rough timeframes, that might become available?

Peter Claggett: It is going to be funded. So, it is a part of the notice of funding opportunity that EPA has. That's a \$6.5 million funding opportunity, with \$1 million of it going to stream attribution with the focus on this periodicity of stream flow. The USGS funded pilot, which Matt Baker is leading, is going to be done in the next probably 4 to 6 months and this notice of funding opportunity decision is going to be made by the beginning of September. That's an EPA decision, not my decision with this. So, that's just a guess and then that work will commence. While it's five years to completion, I'm sure there will be interim products, test areas, and things that will be done in the meantime. Perhaps for test areas, we'd be looking for places with really good ancillary data and maybe Montgomery County would be a good spot for that. In terms of the Bay-Wide product, the deadline is five years from now.

KC Filippino (in chat): NOFO: [Search Results Detail | Grants.gov](#)

Mark Symborski: Thank you.

KC Filippino: Katie, you mentioned you were going out to user groups to give products, or tools. Was it just that Chesapeake data? Or were there other tools that you're going to be sharing and which user groups?

Katie Walker: All of the user research happened during the course of our project. So, that certainly was underway with folks within the Bay Program. The Chesapeake Data platform is going to be rolled out first through the Bay Program staff this summer. I think we're aiming the July or August staff meeting for the Bay Program. We've just been supporting the development of the platform. I think John Wolf does have plans to reach out and, after the Bay Program staff meeting, roll it out through the goal implementation teams. So, the Chesapeake Data Platform will be a hub and a resource for all data resources across the board and land characterization and monitoring is a huge component of that. If John Wolf doesn't plan an update specifically for the LUWG, I'll volunteer myself as soon as it is live and available across the board, to make sure that you guys get an update this fall.

Haley Amini (in chat): Hi, how can jurisdictions get access to the bmp opportunity layers?

Katie Walker: I can answer that in the chat, Haley. Again, I'm pretty sure that this information is going to become available through ChesapeakeData.

George Onyullo: I have a question about the Drexel University's watershed API, and I wondered about its efficacy in dealing with fully built up of an environment. The reason we ask

is- we've done quite a bit of work on that front, and I don't know how a tool such as the one they are developing would actually integrate urban stormwater system plus surface drainage to come up with a competent mapping that can be helpful. It's a good tool if it can work. I'm just worried about its ability to help a jurisdiction such as D.C. By the way, we would be very happy to share with you the work we did, I think 5 years ago it's done.

Katie Walker: Absolutely, George. I appreciate the comment, the ask. What I can offer is the tool was developed with the agricultural landscape in mind. Although, there was a subsequent pilot to start integrating stormwater infrastructure data. There was an element to our work where we did a stormwater proof of concept to start integrating specific stormwater infrastructure data. We did this proof of concept in Lancaster, PA, to take an area that has robust GIS information about stormwater infrastructure and use it in coordination with DEM data to run similar routines of trying to identify where service areas are already and where service areas are still needed for stormwater BMPs. So, I'll follow up with you via email and make some connections also with my colleagues at Drexel. I think they would be very interested to hear what you guys have been working on in DC.

George Onyullo: Thank you. Wonderful.

Katie Walker (in chat): These data will be available through the FieldDoc application for folks looking for an integrated workflow for BMP planning. That application is free to sign up for as a user. In addition, these data will be shared with EPA for distribution as they see fit. I expect that it will be available through the forthcoming ChesapeakeData platform.

Haley Amini (in chat): Thank you. Is there a timeline for each of these? I apologize if I missed this in your presentation.

Katie Walker (in chat): These data are complete and will be available through CBP later this summer. I've made a note to put you on our list of folks to update when we see it go live!

Haley Amini (in chat): Thank you very much!

2:15 Case Study Presentation: Parking Lots- KC Filippino HRPDC/Co-Chair (20 min)

The LUWG continued its presentation of case studies on the utility of the land cover/land use data products. KC Filippino and Ben McFarlane, HRPDC, presented on on-going work in Hampton Roads, demonstrating the usefulness of the data related to parking lots and the potential for studies to explore policies and retrofits to include green infrastructure into parking lot designs.

Action: Members are asked to reach out to LUWG leadership if they would like to present a relevant case study on the usage of land use/land cover data at a future meeting.

2:35 Phase 7 Modeling Discussion- Peter Claggett, USGS (20 min)

Peter offered an update on how the high-resolution land use/land cover data will be analyzed to inform Phase 7 modeling efforts.

Discussion

KC Filippino: Peter, in the very beginning you said something about we have 12 classes, but we can add a 13th. I thought we weren't ever doing that. I didn't think that was on the table. I thought solar was potentially just going to be solar pervious, solar impervious, within those classifications.

Peter Claggett: Well, that's true. The way we are addressing the solar is because the research is not there to say that solar has a unique loading rate. Therefore, we're using the impervious

connectivity, treating the panel arrays as impervious, and using the connectivity measure and evaluating that through CalCAST, to see if it turns up as a significant variable in modifying the loading rate. If the spatial location of impervious is significant in modifying the loading rate, and improves the model fit of CAST, then that metric can be incorporated as a modifier to the load for all impervious. So, for solar panel arrays, we're not treating that as a separate land use, but the modeling team said it is still possible for a workgroup to say we think road rights of way, for example, unlike an example of suspended succession, reclaimed mine lands, landfills, these should not be mixed open, which was originally envisioned as this kind of open space, nice area, natural-ish landscape. It's ok if a group wants to separate those, they just have to have some rationale for separating it...but a workgroup would have to take it upon themselves to do that, and the urban stormwater workgroup has punted to you guys. So, it's something that you all as a workgroup can decide on if you want.

KC Filippino: What's the timeline for decisions?

Peter Claggett: All these decisions pretty much have to be locked in by early next fall-September. We have like a year, but the drop-dead date is next September, October.

KC Filippino: 2025?

Peter Claggett: Yeah.

KC Filippino: If we have to make a decision, I think we have to have a little bit more understanding, because I'm not really sure now. When would we know more about CalCAST to even say if it's distinguishable?

Peter Claggett: Well, the connectivity, the lands of water factors, hopefully we'll have that in the next six months. But that's not really going to affect the suspended succession and solar pervious. So, for suspended succession and solar pervious, I'm putting that out there as there could be a unique loading rate for that period, regardless of where it sits on the landscape and that's not a GIS decision or modeling decision. That's a sector work group decision, and you guys could decide forget it, we don't want to do it, we don't want to go there. That's up to you. I'm throwing it out there because, from our perspective internally, that's kind of the one group of land uses that seems different from the others and might need a new home.

Dave Montali: Solar pervious? I like KC though that was going to be turf. Are you saying that will be mixed open if we keep all the land uses the same?

Peter Claggett: It rolls up to suspended succession, which will roll up to mixed open.

Dave Montali: Ok. Suspended succession, it's vegetated, it's not necessarily fertilized. It may be more compacted than natural lands. Is that the general? I'm going to fight back a little bit about creating a new group because mixed open doesn't load naturally. It's on the forest side of things for nitrogen, but it's fairly high relevant to forest for phosphorus. It seems like a lot of work to come up with where to put that loading rate, and is there science to support that? I just don't think it's all that bad now.

Norm Goulet: Before we get into these huge discussions, the urban workgroup is going to be looking into this a little bit and, from there, we'll have a conversation about potentially what we might be able to do, what we might not be able to do. So, let's not get wrapped around the axle right here on this one.

KC Filippino: Maybe we need to have this for another item agenda, more specifically about mixed open, so that we know what decision items we need to have in front of us, if we need to make those decisions, and the pros and cons of each. We keep batting it back and forth between urban stormwaters and us. We just need a path forward and a plan, and I don't think we are there yet. I want to make sure I understand that the items on the table for the LUWG were the solar issue and mixed open in general. I don't know about all the other ones on the list.

Peter Claggett: It's the suspended succession/solar pervious number one. The other thing is the

backcast and the other thing is the forecast. Those are the three things that are potentially on your plate.

Katie Brownson (in chat): Perhaps with the backcasting we can revisit the list of land uses that are currently "ineligible" for federal lands in CAST (i.e., forest harvesting)?

Peter Claggett: I'm glad you brought that up. Right now, in Phase 6, there's no ag on federal lands and I already pitched that to the federal facilities workgroup that we're mapping ag on your lands. There is ag on your lands. How you deal with that is your thing. They haven't decided yet, but some of them spoke up and said yeah, we have and we manage ag. So, I think ag is going to be an eligible federal land use for Phase 7 and then for those facilities if that's the question. Maybe I am missing the question.

Katie Brownson: I was particularly interested in harvested forest because that's currently ineligible as a federal land use. Even though the largest Federal landowner in the watershed is the Forest Service, so there is definitely harvested forest. My understanding is one of the challenges is being able to backcast all the land uses through the full modeling period, to have that full record rather than just kind of stating at one point in time and say, ok, we're now going to make it eligible. I think for harvested forest, it would probably be pretty easy. I think Ag might be harder because there are so many different ag land uses. If there is an ability to reconsider harvested forests as maybe an easier one, I'd be interested in exploring that. Thanks.

Clint Gill (in chat): That means we need a DC rep on the AgWG.

Mark Dubin: I put a big push in for ag on federal lands for Phase 6 and we couldn't get it across the finish line. So, I would definitely be in favor of trying to get it in for Phase 7. There definitely are ag lands there. The USDA is largest owner for federal easements as well, so are we taking those into account anywhere in this process? Thank you.

Peter Claggett: Federal? So, what are you talking about? Are you talking about NRCS easements?

Mark Dubin: Yes, NRCS easements. Are we seeing those as private, or are we seeing those as federal lands?

Peter Claggett: Those are not coming in as federal lands, so those would be easements funded by federal agencies, but not owned by federal agencies. We don't have polygons of grass buffers, for example, or even crop lands, I don't think we have polygons for those.

Mark Dubin: NRCS would have that data set. They would have all the boundaries. We haven't tapped into it, but it is pretty significant, so it might be worth having a conversation with NRCS on that.

Peter Claggett: Ok, that's interesting. Thanks.

Dave Montali: In response to Katie, the West Virginia data that we submit every year about harvested forests is inclusive of harvest activity on the national forest. So, I didn't even realize that you couldn't put it in federal land use.

Katie Brownson: Yeah, it doesn't get counted. It's an ineligible land use in CAST.

KC Filippino: That decision, though, in terms of eligibility, where does that come from?

Peter Claggett: The federal facility group said they didn't want ag last time. So, it's up to the federal facility workgroup. These are workgroup requests. These are political decisions, not necessarily modeling decisions.

Katie Brownson: I think it's a little bit of both, honestly. I feel like we went through a whole exercise of requesting that this get done a couple of years ago at the federal facilities workgroup and Jeff Sweeney kind of dug up some of the history of former requests along these lines, some of the technical challenges that need to get overcome. My recollection is that, for ag, there were some pretty significant technical challenges that would need to get overcome. That might not apply for forest harvesting, but we could revisit that conversation.

KC Filippino: I am just thinking about process. Am I having this conversation with the LUWG, or am I going to punt to federal facilities? I think the latter.

Katie Brownson: Yeah.

Cassandra Davis (in chat): Is it being assigned as federal land in NEIEN?

KC Filippino: I don't know if it's being assigned. Cassie asked. Maybe you know that Katie, if it's being assigned as federal land in NEIEN?

Cassandra Davis: I was referring to the BMP, like when West Virginia was reporting the BMP to NEIEN, are you assigning it to all forests, or specifically to federal forests.

Cassandra Davis (in chat): The BMP forest harvesting when reported to the Bay*

Dave Montali: It's just all forest. Right now, although we have the ability to submit shape files and identify all kinds of stuff in the past, it's been so many acres per county harvested under BMPs and, if there was no distinction of federal available, then we couldn't do it. But I don't know it's something we can even do on an annual progress basis is my understanding.

Katie Brownson: I think it gets reported if there is forest harvesting on federal lands and they report BMPs. I think it can get reported up to NEIEN is my understanding, and then it gets filtered out when it goes into CAST. We've been asked, even though we're not going to get credit for any of the forest harvesting BMPs that are done on federal lands, we've been asked to report, which is a really hard sell because we don't get credit for it. We were told by Olivia that they still capture all that information so they have the data on BMPs on federal lands for forest harvesting, but we just can't get credit for any of it because forest harvesting is an ineligible federal land use. It might be more of a federal facilities topic. Maybe a joint meeting or bring in some of the land use folks to dig into it because I think there is some crossover, right?

2:55 Review of Actions/Decisions – Arianna Johns, VA DEQ/Co-chair (5 min).

NEXT MEETING: Wednesday, September 18, from 1:00 – 3:30 PM.

Participants

Caroline Kleis, CRC
KC Filippino, HRPDC
Arianna Johns, VADEQ
Sarah McDonald, USGS
John Pierre, Dunn, NC
Bill Merrey, Baltimore County
Samuel Canfield, WVDEP
Mark Dubin, UME/CBPO
Steven Guinn, CC
Shannon McKenrick, MDOE
Andrew Gray, Carroll County, MD
Norm Goulet, NVRC
Cassandra Davis, NYS DEC
Rick Turcotte, USDA FS West Virginia
Lori Brown, DNREC
Robert Hirsch, Baltimore County MD
Tyler Trostle, PA DEP
Haley Amini-Rockwell, Baltimore County EPS
Jeff Sweeney, EPA

Gussie Maguire, CBF
Sophie Waterman, USGS
Deborah Sward, MD Dept of Planning
Allie Wagner, NVRC
Young Tsuei, DC DOEE
Clint Gill, DDA
Nicole Christ, MDE
Katie Walker, CC
Katie Brownson, USFS
Ruth Cassilly, UMD/CBPO
Supriya Khadke, NOAA
Ashley Hullinger, PADEP
Susan Minnemeyer
Dave Montali, Tetra Tech, WV, MWG
Caitlin Bolton, MWCOG
Jackie Pickford, USGS
Mark Symborski, MCPD
Krystal Reifer, MCEP
George Onyullo, DOEE

Alex Gunnerson, USGS
Ben McFarlane, HRPDC

Peter Claggett, USGS

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
NVMC: 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