

CHESAPEAKE BAY PROGRAM LAND USE WORKGROUP
Call Summary

March 2, 2016
10:00AM-3:00 PM

Meeting Materials: <http://www.chesapeakebay.net/calendar/event/23309/>

Actions & Decisions:

ACTION: MDE will sample their land use data to estimate the relative proportions of open space to turf grass for specific land use types. These estimated proportions will be applied to aggregated low vegetation and barren land cover classes at the 10m scale within those land uses throughout the CB watershed. For example, if there are a total of 60 low vegetation and barren 1-meter cells within a particular 10m cell on the campus of Berger College, and MDE finds that on average, 80% of low vegetation on college campuses qualifies as mixed open and the other 20% qualifies as turf grass, the cell will be reclassified as 48% mixed open and 12% turf grass.

DECISION: Low vegetation and barren lands within the following land uses will be classed as X% mixed open and X% turf grass based on MDE's findings:

- Institutional grounds/campuses
- Military installations and other Federal Facilities
- County, State, and National Parks
- Commercial/industrial areas
- Quarries and surface mines

DECISION: Low vegetation and barren lands within the following land uses will be classed as turf grass:

- Highway right-of-ways
- Airports
- Areas adjacent to buildings, driveways, and parking lots

DECISION: Low vegetation and barren lands within the following land uses will be classed as mixed open:

- Landfills
- Vacant lots
- Sandy/rocky outcrops and waterbody margins
- Beaches

DECISION: Railroad right-of-ways (4m width) will be classed as impervious non-roads.

DECISION: Dirt and gravel roads will be classed as impervious roads.

DECISION: The LUWG decided to re-name the class formerly known as open-space to 'mixed open'.

ACTION: Peter Claggett and Karl Berger will present this update on the Phase 6 land use data production to the WQGIT during their March 28th conference call.

10:00am **Welcome and introductions – K. Berger**

- Meeting minutes from February 2nd were approved.

10:05am **Phase 6 Loading Rates for Developed Land Uses – Olivia Devereux**

- Peter Claggett provided introductory remarks on the issue of loading rates in relation to turf grass, open space, and agriculture.
- Olivia discussed the relative loading rates for land uses in the Developed sector with a focus on management implications associated with classifying low vegetation as either turf grass, open space, or agriculture.
- Claggett: Is it true that even after the WSM is calibrated, that the relative differences between the land uses (open space v forest loads) that those relative relationships will be maintained.
 - Devereaux: No because the BMPs can have a great impact. There are ways, with BMPs, to change the atmospheric deposition, fertilizer inputs, etc.; then, those relative differences are no longer what they were in the calibration because there are so many other things going on.
 - Berger: To my mind, our dilemma whether to categorize something as open space or urban should be consistent with the ways in which those targets were developed from the data.
- Claggett: At what point in time is the mass balance going to be re-done? If we move around these land uses based on changes in definitions, and if the mass balance is already done and set in stone, then we're shifting things around and this could become a problem.
 - Devereaux: It's also based on the number of acres. My understanding is that we will get the final acres from you on September 30th, and at that point we will recalculate the total number of acres for each sector.
 - Goulet: And that includes re-running SPARROW?
 - Devereaux: Correct.
- Berger: Within the urban sector, and SPARROW, it's a regression based approach to determining loads. I'm wondering when they look at an urban area, do we know if they're taking into account an urban area that has everything in it, or are they able to parse out distinctions?
 - Devereaux: What USGS did for us for this purpose, was run SPARROW with the land uses (target sectors) as they explanatory factor. So we ended up with a coefficient for each of those four target sectors. We

don't have inputs like we do in the WSM; they ran SPARROW for each of those four sectors.

- Berger: So when they ran the developed land use model, do you know whether the kind of land uses that are in urban areas but not necessarily fertilized – was it all inclusive?
 - Devereaux: Yes – it was all inclusive.
- Claggett: If we shift acres from turf to open space – taking acres out of the developed sector, then that goes back into the mass balance. Is the effect that all developed export rates would go up a little bit if the total acreage goes down?
 - Devereaux: Yes.
- Claggett: What is institutional open space?
 - Goulet: Campuses and areas that are more governmental in function. So not transmission lines, but it could be a soccer field or a park that has a large green open space.
- White: Within each of these, there's a high degree of variation in the NSQD land uses. So they're variable in what they're actually defining?
 - Devereaux: Yes, so we ended up taking the median value from each of these categories.
- Discussion on how to categorize different land uses – open space versus turf grass.
- Goulet: This NSQD open space is in within the developed sector, and is not looking at the 'real' open space. I would expect these land uses to load higher than the 'real' open space.
 - Devereaux: This 'real' open space is the leftover category, correct?
 - Claggett: I think that's the majority of what that million acres is, but there's still open space in the developed footprint, and that's really what we're here to say. Aside from transmission line right of ways, is there anything that's obviously open space within the developed footprint? Or is it due to compaction and removal of the organic layer, does it then function more as turf and not as open space?
 - Goulet: We went through this so long ago, and I think our level of understanding of this whole process has increased since that time. I'm wondering if we need a new land use category, essentially called 'developed open'. That institutional land, those transmission line right of ways, would be in this new developed open class, as opposed to the 'true open' class. Because intuitively, it does load differently.
 - Claggett: But if the mass balance is redone, does it really matter if you're sharing slices of the pie with other sectors versus just changing it around?
- Symborski: Is a distinction made between the more developed lands and the more natural lands in terms of open space? Maybe if we just made that distinction and then determined which areas have the low vegetation on altered land vs. more natural land, then that might address the issue. Because most turf near developed areas is pretty highly compacted.

10:30am **Mapping turf grass and open space – Peter Claggett**

- Peter discussed proposed revisions to the rules for mapping turf grass and open space and changing the name of open space to something more descriptive.
- Norm Goulet suggested re-classifying the small patches of trees in developed areas that are now being classified as open space, to re-classify them to a new 'developed open' class.
- Reed: Are there no huge areas of warm/cool season grasses that are natural, and meadows, that are not managed? And how are those classified?
 - Claggett: There are, and they would be outside of our developed areas, and the ag census wouldn't be overestimating ag, and they would be called open space. They would load similarly to forest, but not as good.
- Is the idea that the urban open would load the same as the true open?
 - Goulet: No. They would load differently.
- Discussion in the LUWG about potentially adding a new open space class specifically targeted to developed lands.
- The LUWG discussed how to formally classify the 'leftover' groups (institutional campuses, dirt and gravel roads, landfills, vacant lots, etc.).
- Dirt & Gravel BMP applied land uses should change – building/structures?
- Suggestion to instead use a buffer on these un-classed areas to call part of the area 'developed open', and then reclass the rest of the area as impervious non-roads.
- Suggestion for developing a new loading rate for the 'developed open' category.
- The LUWG agreed not to create a new 'developed open' land cover class, but instead to approach grey areas on the landscape (referenced in the presentation of Turf v. Open Space, with a proportional value of turf to open space.

11:30am **Briefing on Tree Canopy Land Use Loading Rates – Justin Hynicka**

- Justin discussed the proposed tree canopy land use loading rates planned for incorporation into the Phase 6.0 model.
- Claggett: This is more of a process based approach to estimating the effects of canopy on underlying land uses, and it helps us conceptually in our discussions on turf grass versus open space.

12:00pm **Break for Lunch**

12:45pm **Update on Phase 6 Land Use Production and Review – Fred Irani**

- Fred Irani updated the LUWG on the status of the Phase 6 land use database production, and will request that states submit any additional local county contacts that may be included in the final review. The revised proposed completion date for the Phase 6 land use dataset is in September.

- Berger: I think that we need to carefully consider moving forward how we want to prioritize the local land use review against the need to complete this on the CBP partnership deadline.
- Reed suggested giving the counties a heads up of when to expect their data so that they can adequately prepare and to help smooth out the entire Phase 6 review process.
- Cannistra: We found a lot of systematic issues in our data and we didn't understand how they were being resolved, so I just want to clarify that we weren't identifying just small issues, but more 'global' issues.
- Antos: Is there any way that the contractors can modify their methodology moving forward in order to further streamline the county review processes? How I see this playing out is the LUWG should provide its recommendation of what it sees as the most appropriate time frame to complete its charge, and identify if there are any areas where you might be able to cut corners. If we're talking about scrunching a review period, it won't address all of the issues. And then that recommendation can work its way up through the GIT and the PSC.
- Claggett: We won't know anything for sure until May. First off we need data in hand and more definite dates from the contractors. I don't see us getting into that rhythm until May.

2:00pm **Adjourn**

2:00 – 3:00pm

Optional: Webinar on QA/QC for the Virginia Land Cover data development

Agenda:

1. Welcome
2. Brief Project overview
3. Project Classifications and their accuracy targets
4. Sample Size
5. QAQC Process
6. Accuracy Assessment Principles
7. "Fuzzy Logic"
8. Questions

There will be a viewing session of the webinar hosted at the CBP offices in Room 305A.

Next conference call:

Wednesday, April 6th 10:00 – 12:00 PM

Participants:

Lindsey Gordon, CRC
Karl Berger, MWCOG
Norm Goulet, Northern Virginia Regional Commission
Renee Thompson, USGS
Peter Claggett, USGS
Olivia Devereaux, Devereaux Consulting
Lee Epstein, CBF
Fred Irani, USGS
Quentin Stubbs, USGS
Jeff White, MDE
Stephanie Martins, MDP
Shannon McKenrick, MDE
Dennis Cumbie, Loudon County, VA
James Gregory, DNREC
Jim Cannistra, MD National Capital Park & Planning Commission
Mark Symborski, Montgomery County
PGCO
Sarah Stewart, Richmond Regional Planning District Commission
Sebastian Donner, WVDEP
Alex Reed, Washington County
Robert Hirsch, Baltimore County
Krystal Reifer, Montgomery County MD MDP
Seung Ah Byun, Brandywine Conservancy
Julie Mawhorter, USFS
Justin Hynicka, MD DNR
Jonathan Champion, DOEE
Jeremy Hanson, VT
Sally Claggett, USFS
Megan Grose, WVDEP
Darold Burdick, Fairfax VA
Steve Stewart, Baltimore County MD