Chesapeake Bay Program
Forestry Workgroup (FWG) and Land Use Workgroup (LUWG)
Meeting Minutes
Wednesday, December 7th, 2022
10:00 AM – 3:15 PM
Meeting Materials

Summary of Actions and Decisions

Decision Requested at a later date: The FWG discussed the Community Tree Canopy (CTC) indicator and the options presented for consideration. They will hold an official vote on this topic at the January FWG meeting. After the FWG comes to a decision, the Status and Trends Workgroup and Water Quality GIT will be asked to provide additional approval.

Action: Katie Walker, Chesapeake Conservancy, will follow up with those identified in the meeting to have further discussion on the tree canopy over turf grass buffer sizes. Please contact Katie Walker (kwalker@chesapeakeconservancy.org) if you are interested in offering feedback.

Action: USGS and the Chesapeake Conservancy will respond to the concerns and suggestions raised in producing the 2021/22 LULC data. Any changes to the data will be retroactively applied to previous data products.

Action: If jurisdictions have new timber harvest data for their states, please send it to Chesapeake Conservancy (cic@chesapeakeconservancy.org).

Action: The FWG leadership will work to revive the Timber Harvest Task Force to improve the reported harvest data for CAST, Phase 7, and to serve other outcomes reliant on the high-res land use and land cover data.

Action: The FWG and LUWG will be asked to review the draft watershed-wide hyper-res hydrography data (via a web viewer) once available. They will be asked to provide feedback on how best to interpret the hyper-res hydrography and land use data for inventorying riparian forest buffers and buffer opportunities (i.e., what is bufferable and how to best make that distinction).

Action: Members are asked to think about what land use analyses to prioritize to support the State of the Chesapeake Forests report and to share case studies in their state to Katie Brownson (katherine.brownson@usda.gov).

Meeting Minutes

I. Feedback on 2017/2018 Land Use Land Cover Data Products – Katie Walker, Chesapeake Conservancy (CC), and Sarah McDonald, USGS

Presentation A: Stakeholder Feedback

Katie Walker from the Chesapeake Conservancy (CC) gave a presentation on Stakeholder Feedback for the CBP 2017/18 Land Use/Land Cover. The 2017/18 data was published in May, a request for feedback went out in October to county GIS and planning staff, state agency staff, LUWG and FWG participants, and other relevant stakeholders. The CC and Bay Program GIS team are reviewing nearly 3,000 points of feedback to identify systemic errors and isolated concerns.

*Acronym list can be found on page 14

For the land use, the most frequent point of confusion is between turf grass and agricultural lands (cropland and pasture/hay) and natural succession. There is also known confusion between areas of harvest forest or within succession as agricultural classes (looking to improve with better ancillary data, to be covered in the next presentation).

Katie moved on to talk about Tree Canopy-Centric Land Cover Errors and gave some examples. She showed an area where the model had mistaken Forest as cropland, Tree Canopy Over Turf Grass mistaken as Cropland Herbaceous, and Harvested Forest Herbaceous mistaken as Natural Succession Herbaceous. The definition of forest is complex and can vary state by state which can make these errors more difficult to sort out. Katie showed some visual examples of some of the needed corrections.

Discussion

Anne Hairston-Strang asked about what classes are working well for modeling purposes? Peter Claggett responded that the LU classes have a minimal effect on the watershed model loads. The added value of these data will inform Phase 7 and other outcomes.

KC Filippino asked about problem areas that were not identified in the review done by LUWG or FWG and if the systematic fixes will be applied to everywhere. Katie Walker noted that they are doing their own internal review and any systematic fixes will be applied across the watershed.

In response to a comment Katie Walker made about different states using different forest definitions Terry Lasher asked about just using the FIA definition. (The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of trees must have a crown width of at least 120 feet to qualify as forest land.)

Frank Rodgers asked about Harvested Forest Herbaceous mistaken as Solar Field Herbaceous. This mistake happens due to the AI based software making the mistake. The other issue is that LiDAR and NAIP imagery have a different date that could contribute to the inconsistency. The other thing is that solar fields seem to be predominantly constructed in forested areas that have been recently timbered. That means that the solar fields are in areas that have been historically rotationally harvested.

When looking at the Forest gaps that are being mistaken as cropland or low vegetation classes visual example, Anne asked why the whole patch is not classified as forest, as forests have patches. Peter noted that those patches are there because they use LiDAR imagery. LiDAR measures the time for the reflected light to return to the receiver, so if there is a gap it is going to take less time to get back to the receiver. Moving forward, there will be patch metrics applied to help address this problem because it is (incorrectly) showing a loss of forest. This issue will have implications for conversations about forest conservation and fragmentation.

Presentation B: LULC Tree Canopy Planned Updates

Sarah McDonald of USGS discussed the proposed Land Use/Land Cover Tree Canopy Planned Updates to the 2013/14 and 2017/18 data. She gave some background on the things mapped in 2022 and the potential updates. NOTE: Any changes to the data will be retroactively applied to previous data products. Sarah went into detail about the potential updates and asked some questions about how those updates should happen:

*Acronym list can be found on page 14

Discussion

a) Tree canopy over turf grass

Definition: Tree canopy overlapping managed low vegetation in developed areas that is assumed to be turf grass or otherwise altered through compaction, removal of surface organic material, and/or fertilization. In the 2022 mapped edition a 10-meter buffer was applied around the turf grass, structures, and other impervious surfaces (or 20-meters in densely developed areas).

The planned adjustment is to limit the buffer to the originating land management parcel boundary. Sarah asked two questions:

1. Should there be a restriction of tree canopy over turf grass buffers to land management parcels?
    - Assumes management and compaction from the development process ends at property lines (fences?)
2. Change buffer sizes? Should rural, forested, and densely developed areas have different buffer sizes?
    - Currently the buffer is 10-meter in rural and forested, 20meter in densely developed

Comments:

The group was not in agreement about applying the restriction of buffers to parcels. Most liked the idea but had some clarifying questions.

KC Filippino asked how USGS and the CC came up with 10 and 20 meters, and if there are any local government ordinance restrictions, or other info that would help back up this decision. Peter said that the decision was made in-house, as they are intimately familiar with the data along with personal experience of knowing that wooded areas within neighborhoods tend to have turf grass under their canpoy.

Julie Mawhorter asked about small urban forest patches in places like Baltimore that may be less than 1 acre, but field research has shown they have qualities of natural forest. If we have parcels that have only tree cover (no turf or structures/impervious), could we assume these might be functioning like small forest patches? Sarah noted that this buffer is only applied in parcels that contain structures of 55 square meters. The logic for having a larger buffer in densely developed areas is that not just a parcel that is cleared for development, but a whole block. So, the logical thing to do is have a larger buffer size.

Katie Walker proposed a follow up conversation to further discuss buffer distance and classify between rural and developed areas.

KC Filippino noted that from a LUWG perspective it's very hard to make a decision on these items without more info.

There is a need to have offline conversations about this decision. (KC Filippino, Rob Feldt, and Frank Rodgers, all identified themselves as people who would be intrested in the follow up conversation).

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b) Turf Grass to Tree Canopy Transitions

Sarah moved on to talk about turf grass to tree canopy transitions and highlighted an example of land that had been cleared and is classified as turf grass in the 2013 data and then tree canopy in the 2018. She then asked the group about what we should consider this transition to be:

1. Turf Grass transitioning to Forest or Other Tree Canopy (small patches of Tree Canopy with undisturbed understory). Should this transition always be Turf Grass to Tree Canopy over Turf Grass?
    - Turf Grass in early date implies the ground was compacted due to the development process.

Comments:

Anne Hairston-Strang noted that we would assume the trees are addressing the compaction on their own and could very well be developing a natural understory. It goes back to the point made previously that "forests" in neighborhoods just tend to be trees with turf grass underneath, however it is dependent on how the landowner deals with the ground under the trees. Sarah then posed the question: should we err on the side of natural? Anne said we cannot make one assumption and that the trees are growing and that should count towards something.

Julie Mawhorter noted that this example seems similar to our urban forest planting BMP, dense enough for unmanaged understory, which we give credit as forest land use.

The consensus is to have the data stay as is and to stick with current definitions that do not assume compaction.

c) Forest and Tree Canopy, Other

Sarah then talked about "forest" and "tree canopy other" definitions of current metrics:

Forest (FORE) is any contiguous patch of Tree Canopy that is at least 1 acre in area and has a width (diameter) of at least 72- meters.

Other Tree Canopy (TCOT) is any tree canopy patches with unmanaged understories that do not meet forest requirements, including agricultural windbreaks and woodlots.

The decisions to be made that relate to these metrics include:

1. Windbreaks and other long narrow Tree Canopy features connected to large forest patches should be Tree Canopy, Other (not forest)
2. Change Forest metrics?
    - 72-meter width diameter and 1- acre area threshold.

Comments:

The consensus was that the windbreaks and long narrow strips are not functioning or loading like forests. The question about the Phase 7 model came up: do these windbreaks need their own class in future models or can they be treated as other small patches of trees that do not qualify as forests. In the chat Julie Mawhorter noted that from a BMP perspective, when we have ag tree planting or riparian forest buffer, we give forest land use credit to these trees on ag lands even if they are smaller patches.

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So, using the Other Tree Canopy category and loading rate makes sense to me. Sarah noted that those BMPs are REPORTED not mapped. Others noted that the mapping could be done to help support the reported BMPs.

Julie Mawhorter clarified that the ag tree plantings get the forest land use credit. Those plantings get credited for 15 years with the hope that the trees will grow enough to be in the imagery and continue to get the credit through the land cover images. These patches are going to show up as small patches of trees which are considered to be "other tree canopy" which is how the forest credit is given out. It is carrying out what the BMP expert panels decided about the values of those trees as a BMP. **There was agreement the narrow tree canopy should be classified as tree canopy other.**

Katie Brownson asked if there would be an advantage to having a separate metric from the tree canpoy other to be able to quantify all the trees on ag land in the watershed? Peter responded that we would have to have more conversation on what we mean by having a tree on farmland: what does it mean, what do we count?

KC Filippino noted that we need to figure out what these decisions are for: Is this for phase 6 or 7? We should be going back into the BMP panel reports to determine what they thought the imagery will pick up and how it is defined in those reports. If we are only talking about outcome metrics that is different than model world. What are these decsions being applied to? Peter clarified that these changes will not be implemented in the model until Phase 7.

Sarah moved onto the forest metric question about the current 72-meter width diameter. FIA states that the forest is a 36-meter diameter, but USGS and CC interpreted it as a radius, so the number is doubled to 72.

The consensus is to be as close to FIA as possible and reduce to 36 meters. Erik Fisher noted that we might want to think about adding an interior forest class to capture the unique benefits of the larger patches of forest. Others noted that we maybe should not add another class, as people can do this analysis on their own.

d) Harvested forest on wetlands

Definition of harvested forest on wetlands: Barren and herbaceous lands resulting from recently cleared forests and other tree canopy in association with a timber harvest permit (DE, MD, PA, VA, WV) or having a land use history of forest rotation since the mid 1980's.

The proposed change is:

Add 3 classes of Harvested Wetlands Forest:

New Classes:

- Harvested Tidal Wetland Forest
- Harvested Riverine Wetland Forest
- Harvested Terrene Wetland Forest

Preserve harvesting and wetlands classes.

No concerns were raised with this change.

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e) Harvested Forest: Improvement

Lastly the group was informed about improvements to the harvested forest class:

- Prioritize state harvest data over agriculture data
- Use polygon data instead of points
- Experimenting with new metrics to distinguish harvesting from agriculture, etc.
  - NDVI
  - image texture
  - image brightness

No concerns were raised about this improvement.

II. State-level Timber Harvest Data – Sarah McDonald, USGS

Presentation: State-Level Timber Harvest Data

Sarah presented state-level timber harvest data received to date and request feedback from the states on what additional data will be supplied for CAST-23 (April 2023). Understanding timber harvest is important as timber harvest pollutant loads are 3x higher than forest for phosphorus, 7x higher for nitrogen, and 10x higher for sediment. Having state timber data also helps identify where clear cuts are happening vs natural succession, pasture, and croplands.

In 2022 the GIS team had limited harvest data from states. DE, MD, PA, VA, and WV submitted data with varying degrees of information. For the 2024 update only VA has submitted data which spans from 2010-2022.

Sarah requested polygons of harvested areas with harvest date (or date range) from 2010 to 2021/22 (Month/Year format is preferable). Data should include harvest type (clear cut, thinning, selective, etc.) and meta data describing attributes and their meanings. Clear cuts are what is getting mapped, selective and thinning is something that cannot be constantly mapped. The GIS team will happily take data prior to 2010 as it can be helpful. Having polygons help with harvested plot accuracy and can help differentiate agriculture from harvested forests. Point data is much harder to work with as it only identifies a fraction of the total harvested area.

Polygon data are needed to accurately identify the entire area harvested. Including dates helps improve the GIS team's ability to distinguish harvest events for a given time frame from other land uses, e.g., agriculture and turf grass. CAST requires annual estimates of harvested acres. Where not reported, CAST assumes 1.5% of all forested land in a county is harvested in any given year. This may be well above or below what is actually happening on the land.

In 2022 the harvested state data provided was intersected parcels with low vegetation and barren land cover segments. The hope is that in 2024 the team will do the intersection again along with selecting clear cuts before current mapping date that is after the prior mapping date. Along with experimenting with new metrics to distinguish harvesting from agriculture, etc. (NDVI, image texture, image brightness).

Sarah than asked the group two questions:

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- How valuable is it to replace clear cuts reported to Phase 7 CAST with LULC harvested acres?
    - CAST treats clear cuts, thinning, and selective cuts equally in terms of loading
- What would you need to support replacing reported acres with LULC harvested acres?

Discussion

Anne Hairston-Strang: Clear cuts get a buffer or have a retention area. Portions of the clear-cut land are going to have retention or might not get cut. Harvested data is not going to match the imagery.

Katie Walker asked if that state data differentiates within the harvested boundary what is being cleared vs other practices? Anne noted that the clear cuts are not the main concern for water quality, but it is rather the roads and trails to those clear cuts that cause issues for water quality. If you have good BMPs on the ground the impacts of the clear cut should not be highly noticeable. The loading rate of the harvested forests are not based on buffers.

Rob Farrell commented that the ephemeral impact on water quality from timber harvesting is so small relative to actual land use change that this discussion seems a less effective use of the group's time.

Peter Claggett suggested a potential hybrid approach in which jurisdictions could report thinning and cuts as a compliment to the clear-cut data.

The hope is that the Timber Harvest Task Force reconvene and helps with:

- Determine how many years after a clear cut a plot should be mapped as natural succession
- Deliver requested timber harvest data

Action: The FWG was asked to provide "better" timber harvest data by Spring of 2023. If jurisdictions have new timber harvest data for their states, please send it to: cic@chesapeakeconservancy.org.

III. Mapping Riparian Buffers with Better Data – Peter Claggett, USGS

Presentation: Mapping Riparian Buffers with Better Data

Peter reviewed the effects of high-res land use and hyper-res hydrography data on the CBP's inventory of existing riparian forest buffers and buffer opportunities. He posed the following questions to the group for discussion:

• What are "bufferable riparian areas"?

• How might changing riparian forest buffer statistics based on better data impact the Buffer Outcome? Action Requested: The FWG and LUWG will be asked to suggest next steps for determining how best to interpret and use the hyper-res hydrography and land use data for inventorying riparian forest buffers and buffer opportunities.

We are moving from 30m resolution scale to 1m resolution scale of mapping. The new LU/LC data is mapping all counties in and adjacent to the Bay Watershed, while the hydrography is only for the watershed itself. The hydrology data is produced from Light Detection and Ranging (LiDAR) data. LiDAR determines the height of things, so this can help assess forest canpoy along with the understory and the ground itself. All the Bay states with the exception of NY have current high quality LiDAR data. The NY data should be delivered soon.

*Acronym list can be found on page 14

The steps to produce the hyper resolution hydrography data include:

1. Lidar elevation
2. Valley-scale geomorphons
3. Channel scale geomorphons
4. Extract valley network
5. Extract channels using valley network
6. QAQC channel skeleton
7. Connect stream network

The data is attributed with channel length, width, and depth.

With the hyper resolution data at the 1:2400 scale there is 2x as many stream (including channel like features) miles captured compared to the National Hydrography Dataset (NHD) at the 1:24,000 scale.

The National Hydrography Data set (at the resolution 1:24000 scale) is the highest resolution nationally available. It does have some issues, the streams mapped are 20-25 years old and do not capture all headwater streams. Since its original mapping a lot of has changed due to natural causes amplified by changes in land use and climate. The CBP hyper resolution data (at the resolution of 1:2000 scale) is a finer resolution that shows more streams. With a 100ft buffer the CBP hyper res stream data can help target areas that are needed for conservation and BMP implementation. Peter walked through an exercise to demonstrate the different streams at the different scales and on historic topographic maps.

The nation's best available flowline data and attributes are outdated and provide an imperfect baseline for evaluating new stream products. With the new data Peter and his team have created he posed some questions to the group:

What criteria should determine whether a channel is used for setting riparian forest buffer goals?

- Width and depth?
- Stream order?
- Drainage area?
- Flow permanence?

Discussion

The more detailed 2K data is going to have an impact on the amount of streams that are buffered or need to be buffered.

Dave Montali: will any of the land use that gets changed to water with the more detailed be reclassified as water? Peter said that he is not quite ready to ask that question. It is almost a cartographic question.

Anne Hairston-Strang: has any of this been ground-truthed? Is there water in the channels identified? I want to be planting trees in areas that have aquatic life and where there is enough flow to start making a stream system. Ephemeral channels can be buffered, but the benefits won't be as great as they are for perennial or intermittent streams.

Matthew Baker: not yet, we have studies that will be doing field observations but that is not a watershed wide thing. Efforts to develop methods to delineate ephemeral streams from permanent

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streams have started, but at this point they would be derived from model estimates that would require ground truthing.

Anne Hairston-Strang: Could we use stream order?

Matthew Baker: There is a lot of literature on stream channels that presume that there is a single mechanism for generating channels. Other geomorphologists have argued that there is actually a set of 4 to 5 mechanisms for generating channels. Some of those mechanisms included accumulated seepages and wetlands. It is important to recognize regional specific water generation. We can't just draw a line on the map, so there is follow up that needs to happen to help determine what streams are what.

George Onyullo: Buffering streams in an urban setting is very complicated. Flow permanence is difficult but important from the urban perspective We have a lot of our own data. DC has taken some time to update and understand hydrography. Having our data might help with an urban stream perspective.

Patti Webb: In terms of the model, it is important to make sure you account for the difference of delta area flow vs flow happening in mountains. The other question is what are you considering a RFB vs just a tree planting?

Peter Claggett: In my example it is a 100-foot buffer. I do not imply that's the only thing we are trying to do, having more established forest is good.

Rebecca Hanmer: This credit conversation is not something that the forestry workgroup can tackle as it is a long political road. To circle back to the comment on mountain vs delta are you currently using different algorithms to determine flows for different terrains?

Matt Baker: We map based on the topographic evidence of channels. So, there is some regional adjustment to the model. There is also a land use adjustment.

KC Filippino: If we can map all these streams are the modelers able to map the water quality for these streams?

Peter Claggett: Currently we can only take BMPs at their face value for their effect. We can even explicitly model RFB BMPs. It's a good question to ask, but I don't think modelers are going to be able to model these streams as they are too fine of a scale at the moment. A lot of the data we create from this is going to be able to be tested at least statistically. Stream density could be a factor influencing nutrient delivery- this is a metric that could go into the Phase 7 model.

Mark Symborski: Prioritizing streams with perennial and intermittent stream is important. I have been working on a potential buffer project in the Patuxent reservoir watershed and was able to compare high-res data to imagery and subset the ephemeral streams. Its not perfect but it might be away to help prioritize the perennial streams that need to be buffered. There could be other regional models developed that would identify other characteristics to winnow out the ephemerals.

Rob Hirsh: The stream order in this hyper resolution stream network is not going to reflect our storm drain system in urban areas. So, we're going to have some pretty large perennial flows. I wouldn't want those areas to be excluded from being buffered. We appreciate our efforts being reflected in the data. We also now have good Bay Wide LiDAR data that could help generate flow path which can help make the buffer distance be based on flow of surface water.

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Frank Rodgers: The MD Water Quality Monitoring Council would be a goof group to have this conversation with. With the new detailed data there is an opportunity to give landowners more credit as there are more places to define as RFB.

Peter Claggett: This new stream data will be released at some point in early 2023. We need you all with the local knowledge to look at the data and make sure it is attributed correctly and give some feedback on the data. The ask is that you participate in the review of the hydrography data and that you grapple with he questions about what is bufferable and how do we best make that distinction.

Anne put in the chat: We have been talking with PA DCNR about a wetness index. Would that provide helpful information to combine this buffer analysis for buffer targeting? MD Forest Service also has the concentrated flow study that has some field data on channel characteristics - could be useful here.

IV. State of the Forests 2.0 Report – Katie Brownson, USFS and Barbara McGuinness, USFS

Presentation: State of the Forests 2.0

Katie Brownson gave an overview on the background and purpose of the State of the Chesapeake Forests reports. She reviewed what the key LULC and LULC change messages are needed for the report and lessons learned from the MD Forest Technical Study (released on November 16th).

Katie talked about the goals of the project:

- Characterize current state of the forests based on high-res data
- Characterize forest/tree cover change since 2013
- Evaluate implications for water quality and other ecosystem services
- Identify potential management and policy implications

The process of getting this report complete will happen in 2 phases. Phase 1 will look at:

- All tree cover with detail pop-outs
    - Forest
    - Tree canopy over turf grass
    - Tree canopy over impervious
    - Other tree canopy
- Forest
- Overlays
    - Community tree canopy footprint
    - Protected areas
- Riparian tree cover

You can see a detailed outline here.

The second phase will include:

- Equity overlays
- Forest condition analyses
    - Successional classes/age classes

*Acronym list can be found on page 14

- Forest health

Fragmentation/ parcelization analyses

In the first phase there is a need to talk about drivers of change. Why are we seeing certain change. There is a need to tell the story of seeing forest change to devlopment, the timber harvest story, and forest loss due to solar fields.

Discussion

Rob Farrell jumped in to note that we are going to need to have a conversation on conflating timber harvest to forest loss. We need to make sure that we are not conflating timber harvest to forest loss. Intent of what happens after the harvest is crucial and can be monitored through imagery. There is a time element when it come to discerning what is happening on the land. Timber harvest is not forest loss.

Katie Brownson: responded by saying yes of course! We want to make sure we are accurately interpreting the map. The biggest transition by far in the watershed is the result of timber harvesting, but we need to articulate that in an appropriate way.

Peter Claggett noted that the largest change of one class to another is forest to harvest and then harvest back to forest.

Matt Keefer: That nuance is important to include. Forest to harvest is not absolute change.

Deb Sward: after harvested does the land get classified as natural succession?

Sarah McDonald: Yes, it gets classified as scrub shrub. It can be hard to classify when growing back.

Gloria Van Duyne: We need to be nuanced and clear for folks who do not have the expertise to understand these maps. We want to make sure that we are clear with our story so that it is not misused.

Katie noted that we would like to have case studies. If you have a case study example, please share them with Katie.

Erik Fisher: Are there going to be any forecasting components to this report?

Peter Claggett: We do have a land change model and can talk about things like devlopment, land change, and sea level rise. We cannot tackle things like solar in this round as it is not showing up in this data quite yet.

Katie Brownson: We can be pulling from other data to talk about a forecasting report.

Action: Members are asked to think about what land use analyses to prioritize to support the State of the Chesapeake Forests report and to share case studies in their state to Katie Brownson (katherine.brownson@usda.gov).

V. "Community Tree Cover" (CTC) Indicator- Julie Mawhorter, USFS

Presentation: Tree Canopy Indicator Update

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Julie gave some background on the CTC indicator. We track the tree canpoy through reported tree plantings and through land use change data. Over the last couple years there have been a couple proposals suggested on how to use the land use change data to measure tree canopy:

#1 Original 2018 proposal, track changes:

- in Tree Canopy over Turf
- in Tree Canopy over Impervious
- in "Urban" Forest –only Forest that falls within Census Urban Areas & Clusters

And not include:

- Trees on agricultural land
- Forest outside of Census Urban Areas & Clusters

The second proposal came about in May 2022:

Use Land Use Change Matrices to track all gains and losses of tree cover (forest+ tree canopy classes) on developed and developing lands

The WQGIT has concerns with the second proposal:

- Tracking all loss of forest to development extends beyond the scope of the outcome; focus on urban/community areas
- Need an urban/community "footprint" for 2014 baseline to track change over time
- FWG went back to the drawing board and came up with two options on how to use the land use data to track tree canopy:

Option 1- Use Census Places-2020

- Includes local units of government + un-incorporated communities
- Used as community metric in fed/state Urban & Community Forestry program
- Narrowest footprint we would want to use (doesn't necessarily include all subdivisions/developed areas in more rural areas)

Option 2 –Use Census Places 2020 AND Census Urbanized Areas (2020 coming soon)

- Includes more developed/ developing areas that fall outside census places –especially in headwaters/rural areas
- Also includes a fair amount of ag and forest land that may not be as relevant for our urban/community tree canopy tracking

Discussion

The definition of census place: a concentration of population which has a name, is locally recognized, and is not part of any other place.

The further out you go from census places the further away you go from what the WQGIT asked for.

*Acronym list can be found on page 14

Katie Walker asked if there is a statistical difference between the census places, the urbanized areas, and Urban Areas Urban Clusters? Is it a double count? Peter said there is no double counting but there are statistical differences.

Census data should line up with (Community Accomplishment Reporting System) CARSOn the map shown the places in VA do not match CARS. Lara Johnson noted that some of the anomalies should be addressed.

Matt Keefer noted that including both would be more accurate for capturing tree canopy. By including both you would also include areas that are being devloped right?

Julie noted that yes you would get more devlopment if you had the urbanized areas that expand out beyond the census places.

Matt Keefer asked what are we trying to articulate and capture? Losing tree canpoy in a city could be because someone is sick of a tree, but in devloping areas we could be losing canpoy because people are putting houses up, it is all still lost.

Rob Farrell noted that one of the strengths of having all this data is that we have a baseline to compare back to, and one of our challenges. We keep improving the data. So, we keep losing our baseline. In this case I think it speaks to, we should use the more restrictive definition. **Otherwise, if the community keeps expanding, we never have a baseline.**

If we're talking about urban trees, people assume we're talking about trees in a rather centralized area (urban and community trees). If we're talking about exurban suburban sprawl, that's a different thing to measure.

Gloria Van Duyne noted that changing urban areas is confusing. If you have the same baseline data, its great. But if you cannot get the same baseline data then go with the urban places. However, in NY we count suburban as urban so if we are losing those trees than we should be tracking those losses. There is no way we are ever going to see a net increase if we keep changing the boundaries. Support for census places idea.

Frank Rodgers talked about the fact that being from the urban area with fastest rate of growth in the watershed (the City of Martinsburg) WV would be intrested in looking at the urban area as there is so much change.

Nancy Sonti asked if that story is better to be told in the LU story.

Rebecca Hanmer asked how to develop the baseline?

FWG voted for the broader definitions of urban but the WQGIT focused on the traditional definition of urban to better capture the permanent loss associated with development. Is there a way that we can make people aware of the other loss that is happening outside of the urban footprint without including it in this indicator?

Julie talked about Chesapeake Progress and where the indicator will live. She is envisioning a metric that is narrower based on the census places or census + urban and then we could develop a different indicator of tree canpoy loss to devlopment (including outside the urban footprint) that come from Peter's land use metrics. The loss metric could be a background/supporting indicator.

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Peter Claggett stated that the loss is captured in the tree canpoy fact sheets. We could just look at the 2010 urban areas as the baseline and have a supporting indicator.

MD: no decision

DC: Census places

DE: census places plus urbanized areas

NY: census places plus urbanized areas as of 2013/14

VA: Virginia - Census Places

PA: census places: Keep separate, since they're separate stories, but report on both

Jeremy Hanson: not a member, just suggesting maybe the indicator is the narrowest that's reasonable (maybe even 2010 places?) and then the supplemental information then illustrates the broader picture (option 2 with 2020 places + areas)

In the chat there were some more comments:

Mark Symborski asked if equity focus areas can be included in this analysis?

Norm Goulet noted that prior to 2020 urbanized area has always been used to help define MS4 areas.

Rob Farrell noted that maybe we need to tell two different parallel stories. Here is where we are adding trees in "established urban" areas. At the same time here is the amount of canopy cover that we lost to conversion. The net change just mashes it all up.

KC Filippino agreed with Rob, 25,000 acres vs 30,000 acres lost is not helpful when the goal is 2,400 acres in the positive.

Acronym List

WQGIT: Water Quality Goal Implementation Team
LU: Land Use
LC: Land Cover
USGS: United States Geological Survey
MS4: Municipal Separate Storm Sewer System
CARS: Community Accomplishment Reporting System
CTC: Community Tree Cover
USFS: United States Forestry Service
DCNR: Department of Conservation and Natural Resources
PA: Pennsylvania
LiDAR: Light Detection and Ranging
RFB: Riparian Forest Buffers
CBP: Chesapeake Bay Program
BMP: Best Management Practice
NHD: National Hydrography Dataset
QAQC: Quality Assurance/Quality Control
FWG: Forestry Workgroup
LUWG: Land Use Workgroup
CAST: Chesapeake Assessment Scenario Tool
GIS: Geographic Information System
NDVI: Normalized Difference Vegetation Index
FIA: Forest Inventory and Analysis
CC: Chesapeake Conservancy
TCOT: Tree Canopy (other) classification
FORE: Forest classification
NAIP: National Agriculture Imagery Program (NAIP)
AI: Artificial Intelligence

*Acronym list can be found on page 14