Meeting Minutes

Chesapeake Bay Program Forestry Workgroup (FWG)
March Conference Call

March 4th, 2015, 9:00 AM – 10:30 AM

Conference Call Participants:
Rebecca Hanmer (Retired EPA), *FWG Chair*
Sally Claggett (USFS), *FWG Coordinator*
Tuana Phillips (Chesapeake Research Consortium)
Olivia Devereux (Devereux Environmental Consulting)
Anne Hairston-Strang (MD DNR)
Derrick McDonald (PA DEP)
Judy Okay (VA DOF)
Ken Landgraf (George Washington-Jefferson National Forest)
Colin Jones (MDA)
Frank Rodgers (Cacapon Institute, WV)
Justin Hynicka (MD DNR)
Tracey Coulter (PA Bureau of Forestry)
Jenny McGarvey (Alliance for the Chesapeake Bay)
Jim McElfish (Environmental Law Institute)
Herb Peddicord (WV DOF)

Presentation:
Status of Determining Target Pollutant Loads (N, P, S) for new forest land cover
Olivia Devereux briefed the FWG on a recent Tetra Tech literature review on pollutant loadings, and the process used to determine specific loading targets for various types of forest lands in Phase 6 of the Chesapeake Bay Watershed Model (CBWM). She also asked FWG members for suggestions on how the targets could be more accurate. For more information, please see Olivia's PowerPoint Presentation slides.

Presentation points, other comments and questions:

- Olivia explained that we are trying to update the targets we used in the last version of the model by bringing in the latest literature and science.
- To get everybody oriented, Olivia explained land versus river calibration – see slide #2. Edge of field, edge of small stream was the focus of her presentation.
- We are interested in all data that has to do with forest land cover and pollutant loads from forested land. So if there is edge of stream data we can use that, if edge of field data we can use that too. We don't want to lump everything together, we want to be consistent. And that is really where it gets tricky. We do want to use all of it but don't want to lump, we take an average.

- Proposed land uses for Phase 6 of the Model: true forest, harvested, disturbed, wetlands, urban tree canopy.
- We don't want to create a land use that is not available from 1985 to 2025.
- We don't want to 'orphan' BMPs.
- We don't want to create land use high loads without BMPs.
- How will riparian be accounted for? Peter Claggett (USGS, Chesapeake Bay Program Office) is looking at land uses next to stream, distance from stream, etc. Riparian floodplain is an overlay of all existing land covers.
- Olivia also went over the reasons to differentiate land uses.
- There was discussion over species of nitrogen research:
  - One option is to take a look at nitrate correlations with nitrogen, and see if there is a formula that we could use.
  - Total nitrogen is limited, there are a lot of organics stored in a forest. You need all of the species, the model works for all of the species for N and P. If we have a study that only shows nitrates that is a problem, unless we have a way to say nitrate is % percent of nitrogen which could work. But without that relationship, or without a study that takes into account all of the species, it is not useful.
  - Question: has anybody thought of working backwards? E.g., looking up literature of nitrogen in litter layers. If you find the percentage of nitrogen in litter layer you can extrapolate to find how much would get into stream. You would have to look into nitrate in litter layers of different forest types.
  - One participant stated that if we use leaf litter data we should not lose sight of the fact that stream is dependent on some of it.
- A participant noted that for harvested areas it is difficult to know whether or not that is going into different land use or back to forest. Question: is this being considered for the new Phase of the Model? And how do you get that information from the state? Answer: Peter Claggett is aware and working on that issue.
- Olivia stated that she thought the phosphorus export rate for forest-harvest (slide 7) would be higher than it is.
- A participant suggested to look at turbidity vis a vis or in place of TSS.
- Any changes the FWG suggests, will have to go through Watershed Technical Workgroup.
- Olivia also went over the data still needed.
- There was discussion on whether disturbed forest should be considered a separate land use from harvested forest.
  - George Washington Forest has data layers for defoliation or areas affected by insects, as well as spotty wildfire information and prescribed forest fire information. But, this is just a small piece of picture. There are no acres on disturbed forest. Some data on export rates. There are also questions surrounding BMPs.
  - For disturbed land cover, you might see spike and then it might decay. It could eventually go back to normal conditions. So that in itself could be a BMP. Reduce the spread. The damage to water quality is already done. So for this disturbed layer we want to know what is the loading for disturbance and how long does it take to get back to normal.

    - Question: Is there a BMP that people to put in place in forests affected by fire, for instance? I can't imagine have one for wildfire, but perhaps for planned control, prescribed fires.
- Olivia requested that the FWG define the forest land uses.
- Under Sparrow, can we can split forest from harvest, urban tree canopy, etc.? The point is to look at relative influence. Answer: we are looking at large land use categories. Urban tree canopy actually falls in urban "sector."
- There are many other things to consider. When experts look at data, versus when TetraTech looks at data, there is a difference in what each group considers to be the most relevant studies. The contractors in this case didn't find any total suspended sediment studies, for example. They found very limiting data, but we know there is a lot of data out there. The quality of each study is important too. There needs to be a lot more consideration and weight on quality of study. FWG should take another good look at the forestry categories, either the FWG or a forest researcher who has been in field for decades.
- A timeline for finalizing loading targets can be found on slide 12 of Olivia's presentation.
- Tetra tech found significant differences in total nitrogen and wet N deposition throughout time. Olivia recommended using 1995 and up (post 95) data and wanted to check this with the FWG. FWG members thought it made sense to limit review.
- Next steps can be found on page 14 of Olivia's presentation.

Presentation: More on Target Pollutant Loading for New Forest Land Covers
Sally Claggett continued the conversation on loading rates for the new forest land covers. For more information, please see Sally's PowerPoint presentation slides.

Presentation points, other comments and questions:
- The Phase 5 Model loadings were too high. This is why we are proposing forest as its own land cover.
- We see on average that watersheds are getting less than 2 pounds per acre per year.
    - Comment: that is very close to Sparrow's 1.9 lb/ac/yr, which shows consistency.
- We are going to map disturbed forest is through MODIS. There is a lot to still figure out and little time for disturbed forest.

Rationale for Urban Tree Canopy (UTC) Land Cover Target Pollutant Loading
Sally went over the *Information and Citations on UTC and Water Quality* document. For Phase 6 of the Model, we will need pollutant loading rates for forest categories. The document summarizes pertinent information regarding the nutrient and sediment benefits of an urban tree canopy land cover that is being newly considered in Phase 6.

Presentation points, other comments and questions:
- i-Tree Hydro model gives benefits of tree canopy. 1 acre of impervious = about 10 acres of UTC.
- We know that trees are more beneficial than regular urban.
- The suggested target loading towards the end of the document is what is needed to be commented on. The UTC BMP Expert Panel will hopefully comment on this.

- If you have any comments in general how to improve paper, Sally will be collecting those in next few weeks prior to the Modeling Workgroup meeting in April.

Other closing remarks:

- The Chesapeake Bay Watershed Agreement Outcome Management Strategies will be released for public input on March 16th (closes April 30). The latest draft of the Riparian Forest Buffer and Urban Tree Canopy Management Strategies can be found on the chesapeakebay.net website.