Comments Received re: Options for Extractive Lands

Background: States were asked to review the following options for simulating extractive land loads and BMPs in the Phase 5.3.2 Watershed Model and the Phase 6 Watershed Model. After reviewing the options, five jurisdictions and EPA provided preferences for the various options. The results of those six preferences for each model phase are included in the table below. Additionally, WTWG members from the states and EPA, as well as representatives from the Modeling Workgroup and Water Quality GIT provided specific comments on the various options. This document includes those comments.

Results:

Options	Phase 5	Phase 6
Option 1	3	5
Option 2	1	1
Option 3	2	NA

As there was no consensus for either option, the WTWG will be discussing the issue again at its June 4 meeting. The majority of respondents preferred Option 1 (no change) for Phase 5 and Option 1 (removal of extractive) for Phase 6. However, respondents also provided detailed comments and caveats in their responses. States will again have an opportunity to voice their preferences and concerns over each option at the June 4 meeting. Following discussion, the WTWG will seek to reach consensus for a single option for Phase 5 and one for Phase 6.

Options:

Options for Simulating BMPs on Extractive Land Use in Phase 5 (2015 Progress)

Option 1 (No Change): This option would allow each state to continue submitting Abandoned Mine Reclamation in the way they have always submitted the BMP. Abandoned Mine Reclamation converts extractive areas to forest. There would be no addition of Erosion and Sediment Control on Extractive lands. The BMP would remain interim, and would only be available for planning scenarios. This option would not violate the calibration of the Phase 5.3.2 Watershed Model, but would make it difficult to compare extractive loads from 2015 Progress to 2015 Milestones for states who used Erosion and Sediment Control on Extractive in 2015 Milestones.

Option 2 (AMR on All Extractive Lands): This option would allow each state to submit Abandoned Mine Reclamation on all extractive lands in an attempt to simulate permit effluent limits on extractive lands. Abandoned Mine Reclamation converts extractive areas to forest. There would be no addition of Erosion and Sediment Control 1 on extractive lands. The BMP would remain interim, and would only be available for planning scenarios. This option would violate calibration of the Phase 5.3.2 Watershed Model, and would likely over-estimate reductions to sediment and nutrients that are occurring on these lands due to permit effluent limits. This option would still make it difficult to compare extractive loads from 2015

Progress to 2015 Milestones for states who used Erosion and Sediment Control on Extractive in 2015 Milestones.

Option 3 (ESC on Disturbed Land and AMR on Undisturbed): This option would allow each state to submit Abandoned Mine Reclamation on only the undisturbed portion of each state's extractive lands to reflect forest cover or plantings on undisturbed areas. This option would also allow each state to submit Erosion and Sediment Control on Extractive on the disturbed portion of extractive lands to reflect permit effluent limits. This BMP reduces nutrients 25% of N, and 40% of P and TSS from extractive lands. The BMP would no longer remain interim. This option would violate calibration of the Phase 5.3.2 Watershed Model, and may over-estimate reductions to sediment and nutrients that are occurring on these lands due to permit effluent limits. This option would make it less difficult to compare extractive loads from 2015 Progress to 2015 Milestones for those states who used Erosion and Sediment Control on Extractive in 2015 Milestones.

Options for Simulating Extractive Land Use in Phase 6

Option 1 (Transition to Open Space): This option would remove the extractive land use from the Phase 6 Watershed Model, and instead lump those actively disturbed acres into the Open Space category. The Open Space category is also the category that will house railroad and electrical line right-of-ways as well as other lands that are not typically treated by best management practices and are not easily classified as developed, agricultural or natural. This option was proposed for the following reasons:

1) It is unlikely BMPs will be developed for these lands as they are regulated under NPDES permit effluent limits.

2) It is very difficult to estimate land use acres for extractive lands based upon all the data that has been provided by jurisdictions to the Chesapeake Bay Program. Much of the data is unreliable, point data, rather than polygons and active and abandoned areas.

3) There have been no efforts to estimate the loading rate for extractive lands outside of using the current Phase 5 loading rates which were derived from the Phase 5 construction loading rates for nutrients and sediment.

Option 2 (?): There was no other option provided at today's meeting. If the Partnership wishes to have an extractive lands category in the Phase 6 Model, all three of the items under Option 1 above will need to be addressed prior to calibration in October. This will require developing a BMP expert panel to define BMPs for this land use, conducting an extensive effort to collect, report and analyze polygon data from 1985 through 2015 to estimate land use acres, and undergo an analysis of land use loading rates for these acres.

Comments

Gary Shenk, EPA representative, CBP Modeling Workgroup

I haven't been involved much in the extractive land use conversation as it relates to phase 6, but reading over the email, I wanted to comment from the perspective of the statements made by the CBP Modeling Workgroup relative to the integrity of the calculations. The statements were to guard against violations of the phase 5 calibration and to ensure that the modeled changes reflect actual changes in management on the ground, not simply changes in accounting. I don't think that anyone would argue that we should change our loading rates in phase 5 based on the loading rate targets work that we are doing for phase 6. The argument here is the same. The application of the modeling system, the allocation method, and the WIPs relate to accounting for changes made through management.

Another point to understand is that any changes that are made in the phase 5 system that are not reflective of changes on the ground will not be carried over into phase 6. If the partnership redefines extractive at a lower loading rate, then all other land uses will have to increase slightly to cover those loads at the monitored calibration station and reductions will have to be found elsewhere.

I only support an option that represents an actual change in management and so my suggestion is to keep Option 1.

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I have no doubt that the mining experts know the situation on the ground better than the partnership did when we were building phase 5. I think it is a good indicator of how we should go in phase 6.

However that doesn't change the issue that option 2 would be showing a change in management where none has occurred. One of the big problems for the jurisdictions in option 2 is that the 'paper' reductions will be short-lived. If we choose a lower loading rate in phase 6 the difference will be applied to other sources in the calibration and the reduction effects will have to be made up with BMPs on those sources. The jurisdictions would be getting relief now at the expense of their future WIP.

The argument that these are better assumptions than we had in the calibration is the same argument that the partnership has rejected repeatedly in workgroups and panels. The argument that this is a very small difference is not one that I would make personally because it requires some definition of 'small' that the partnership would have to determine, but it does lessen the concern about the effect on future WIPs.

Ted Tesler, PA (DEP) Representative, WTWG

For Ph5, as suggested since we have made 2015 Milestone commitments for extractive E&S we feel it is appropriate that E&S Control (level 1) reduction efficiencies be applied to all disturbed acres in order to reduce the loads assigned to these acres. Abandoned Mine Reclamation projects conducted in PA should continue to be credited as a land use change to forested land and we will continue to only report the acres of land reclamation actually being conducted to maintain the integrity of this data. Claiming AMR on all permitted acres we believe doesn't reflect the benefits of permit compliance as well as E&S Control does. The E&S level 1 and AMR crediting (Option 3) is our preference for the last few remaining years of the Ph5 model.

Regarding Ph6, we are in agreement with moving away from separately characterizing this land use given that these lands are permitted and we are unaware of science-based research to support distinctive loading characteristics for these lands (or BMP credits). We would like to see Abandoned Mine Reclamation continue in the Ph6 model (as a LU change) as we expend significant resources in completing these projects and wish to see this effort reflected in our restoration progress. The use of the "open space" land use is adequate and our preference in this regard is for Option 1 as presented below.

James Davis-Martin VA (DEQ) Representative, Water Quality GIT

The Partnership received a significant amount of feedback during the development of the 2014 Watershed Agreement that encouraged the inclusion of outcomes to address pollution loads associated with fracking (arguably, a land use that could be classified as "extractive"). I am not sure how the partnership responded to those comments, but no such outcome was included in the Agreement.

Dropping the entire extractive landuse for Phase 6 may be counter to the responses, and could inflame an already passionate group of stakeholders.

Bill Keeling VA (DEQ) Representative, WTWG

After having discussions with the mining experts here in VA it is apparent that the p5 calibration assumptions on loadings were not valid. At least for the Virginia portion of extraction within the Bay watershed and I suspect is the situation globally within p5. For the entire calibration period there has been one or more sets of regulations governing extraction and that there has been a long history of management actions that have taken place which is not reflected in the calibration or BMP history. Therefore, option 2 corrects that situation by bringing the simulation more in line with the real situation as it existed during the calibration period and today. These land uses represent a very minor component of the calibrated and subsequent simulated acreage and loadings Baywide.

Option 2 recognizes that for decades now controls have been employed that significantly reduce the assumed moonscape loadings used in the calibration. This in my opinion does not violate the Modeling WG's desire to reflect actual changes in management but actually implements it holistically and efficiently and provides relief from unrealistic calibration assumptions.

Option 1 leaves us with a loading that in reality does not exist and limited ability to address it in the interim with the single BMP - abandoned mine land reclamation (AMR). It is also quite possible that AMR as currently simulated is being misapplied or an inappropriate set of BMPs for application to current extraction activities since these are a collection of activities used for actual abandoned sites from before said regulations were in force. Many have to do with acid drainage and may have limited impact on the pollutants we are concerned with.

Jeff Sweeney, EPA representative, WTWG

As an EPA rep. on the Watershed Technical WG (along with Gary and Lewis), I'll cast my vote for Options #1 for the Phase 5 model (see details of the options below). Although we know some states are

incorrectly submitting the Abandoned Mine Reclamation BMP by not following the definition (and getting too much "credit") , for the primary purpose of our tools, it's better to be consistent through time than to switch mid-stream and allow other states to now submit incorrectly for greater gain (Option #2). Option #3 isn't considered because it allows a workgroup to move a BMP (Erosion and Sediment Control on Extractive) from interim to approved-for-Progress without investigation by an Expert Panel and approval through the chain. We don't want to open this can or worms.

Steve Gladding, NY (DEC) Representative, WTWG

We feel that Option 3 best captures the treatment of mines in NY State. Mines with surface water discharges have been covered under state permits since 1993 and specific testing requirements for TN, TP and TSS since 2006. Even so, we feel this is likely an overestimation as most of our mines drain internally and have no surface water discharge. This raises the question, however, of how Option 3 would be implemented. Will states be required to submit acres of disturbed and undisturbed lands for each mine or does the Bay Program already have that information in the dataset already used in the Phase 5 model? This is not a significant enough topic for NY that we will undertake any additional work to make this happen.

Greg Sandi, MD (MDE) Representative, WTWG

Option 2: It is not clear that the reduction from AMR correlates closely to permit effluent limits. As described in Option 3, this conflicts with previous guidance to MD that a state cannot approximate BMP levels based on the presumption of meeting regulatory requirements.

Option 3: This option was shown to be a 1/3 and 2/3 ratio of the BMPs. This appears to be inconsistent with the CBP policy that stormwater BMPs must be geo-located, which was applied to Maryland's stormwater BMPs on new development. That is, MD is not allowed to estimate BMP implementation levels based on the presumption of a percentage coverage of land for which state law and regulation require BMPs. It also conflicts with CBP policy that BMPs may not be based on a percentage of compliance based on inspection reports. As an example, we have been told that we cannot use this approach for Erosion and Sediment Control as a percent coverage of Construction land in the model.

Phase 6:

Currently, all Extractive land in Maryland should be considered a regulated land classification. Note that although this is not apportioned correctly in the model, and some extractive land is listed as non-regulated, it should all be regulated since all mining operations fall under an NPDES permit. As such, the loads that were associated with these acres are currently included in the Waste Load Allocation in the TMDL along with Industrial Stormwater and all MS4 Urban Stormwater. Open Space will be considered a non-regulated land classification that would fall under the LA portion of the TMDL, meaning that in MS4-regulated counties, regulated land would be converted to a non-regulated load in the next phase of the model.

Furthermore, given that there is precedent for abandoned mines being restored to natural conditions, it seems that by eliminating this BMP, we risk losing credit for important work that has been done and

losing track of a sector where there is ongoing implementation in several MD counties. In fact, this is a BMP for which Maryland has received verified county submissions in the past, and for which it expects to continue receiving credit in the future.

If the Extractive land use is removed, then there will be a precedent that if a classification does not meet the three criteria above, the land classification should be removed. By extension, this may also apply to Construction land, where in Maryland there is less confidence in the acreages of active disturbance and loads associated with runoff from those disturbed acres. However we recognize that it is an important land use that no one would favor eliminating.

In response to Point 1, NPDES-regulated industrial facilities in Maryland are required to treat stormwater from their properties through the use of stormwater BMPs. The statement that there would be no implementation here may not be correct. Additionally, as technology improves, regulation may dictate further restrictions on effluent from these permitted facilities.

On Point 2, Maryland believes that the methods they use to estimate extractive land are robust and defensible. Coal extraction facilities are given to EPA using GIS polygons to delineate the actual land area disturbed. Mineral mines are given to EPA with a Lat/Long point along with permitted acres, and then a regression between permitted and disturbed acres developed from Virginia data is used to calculate disturbed acres for Maryland.

Regarding Point 3, the failure to put in any effort, to date, into defining the land use loading rates does not seem to be a sufficient reason to not put in any additional effort to define it in the future.

MDE provided an option to have both Open and Extractive LU included in Phase 6 of the CB model. A state that wishes to have Extractive as a distinct land classification can provide estimates of that disturbed land (through time) and has until the October deadline to do so. The only requirement for having both is that both of these lands would have the same loading rate applied, and no other data or BMP panel would need to be formed in the interim. No BMPs (therefore no reductions) could be placed on the Extractive unless BMPs approved for used on Open Space are made available.