

**Memorandum**

**To:** Water Quality Goal Implementation Team (WQGIT) Members

**From:** Maryland Department of the Environment

**Date:** April 19, 2016

**RE:** Maryland’s Proposal for Extractive Land Use in the Phase 6 Model

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**Maryland’s Proposal for Extractive Land Use in the Phase 6 Model**

**Background**

At the April 11<sup>th</sup> WQGIT conference call, GIT members were asked for comments and recommendations on two options for simulating Extractive land use in the Phase 6 Watershed Model. Option 1 proposes the removal of the Extractive land use from the Phase 6 Watershed Model, and to lump this land use (actively disturbed areas) into the new “Mixed Open” land use category. Option 2, proposed by the Land Use Workgroup, will allow jurisdictions who have data on the location of Extractive lands to submit that data to the Bay Program for use in determining “Fractional” land uses (e.g. 50% Turf Grass and 50% Mixed Open). This determination will be based on what is assumed to best reflect loading conditions from Extractive areas.

During a 2015 Watershed Technical Workgroup (WTWG) discussion on this topic, all jurisdictions but Maryland preferred Option 1 (removal of Extractive land use) for Phase 6. At that time, Option 2 (the “Fractional” approach) had not been proposed yet. Going into WTWG discussions, the Partnership indicated that the following items would need to be addressed in order for the Phase 6 Watershed Model to include an explicit simulation of Extractive lands:

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.

At the 2015 WTWG meeting, Maryland provided an option that addresses the provisions listed above to have both Mixed Open and Extractive land uses included in the Phase 6 Watershed Model. First, Maryland indicated that mining activities in the State are regulated under NPDES industrial stormwater permits, which require stormwater BMP implementation (addresses #1). Second, Maryland has spent significant time and resources in obtaining exact spatial delineations of Extractive lands in the State and has submitted this information to CBP (addresses #2). Third, Maryland proposed that either a unique relative loading rate (i.e. 50% of the Phase 5 construction

loading rate used in the Phase 5 Model) be used for the Extractive land use or the same loading rate for Mixed Open land use be applied for both land uses (Extractive and Mixed Open). If the same loading rate for Mixed Open is applied, no other data or BMP panel would need to be formed in the interim (addresses #3).

At the April 25th WQGIT call, GIT members will be asked to reach a final decision regarding the exclusion of the Extractive land use from the Phase 6 Model as a separate land use, and endorse the Land Use Workgroup's proposed inclusion of Extractive lands (where such information is available) into either Mixed Open or a Fractional land use.

### **Maryland's Proposal**

Maryland does not support removing the Extractive land use from the Phase 6 Model and does not endorse Option 2, the LUWG proposal to include Extractive lands into a "fractional" land use. Maryland proposes that Extractive lands in Phase 6 be simulated in a similar fashion as they were in the Phase 5 Model. This includes explicit estimates of Extractive land-use acres and either a unique relative loading rate (i.e., 50% of the Phase 5 construction loading rate, as done in the Phase 5 model), or application of the Mixed Open loading rate. What's important for Maryland is to have an explicit estimate of Extractive lands in the Model and a corresponding model output.

The following are Maryland's arguments for why Extractive land use should not be excluded from the Phase 6 Model:

First, it appears that for Extractive land, the decision to remove this land use is based on the absence of data supporting its inclusion—particularly with respect to its unique loading rate. To our knowledge, no comprehensive survey of available data has been conducted, meaning that this decision is being made based on whether the data is readily available, as opposed to not being available at all. While the lack of data is certainly sufficient cause to remove a land use, the failure to investigate and summarize the available data should not be. In cases such as these, when data availability is a concern, a workgroup, panel or contractor should be enlisted to summarize the available data, and create a report on their findings, along with recommendations. These recommendations might include whether the land use should be included in the model, and what additional research needs might be. We do not believe that in the absence of a documented recommendation from an independent entity, there are sufficient grounds to decide to change the precedent that was established in previous versions of the model.

For jurisdictions that have accurate data on the locations of Extractive activities, Maryland believes that the LUWG proposal of using these mapped Extractive areas to fractionally reclassify the land-cover data (Option 2) is a good proposal, but it is not what Maryland has proposed and still desires. From a loading perspective, the fractional approach would result in classifying Extractive lands in a manner that is likely to better reflect loads from the facilities, as opposed to calling the entire area "Mixed Open" (assuming that the load from Extractive lands is greater than true Mixed Open areas, i.e., scrub/shrub or unmanaged grasslands, at least for sediment). However, it does not produce an explicit model output from an Extractive land-use, which is the desired outcome for Maryland.

Finally, to reiterate, Maryland believes the LUWG “fractional” approach proposal is a reasonable one. Since Extractive land represents a small fraction of the developed landscape in Maryland and therefore a small portion of total loads to the Bay, Maryland would not be overly concerned if the Partnership rejected the State’s proposal. However, Maryland still wants to go on record as to why we believe Extractive lands should continue to be explicitly simulated in the Phase 6 Model.

Below are the specific reasons why Maryland believes that Extractive lands should be explicitly simulated in the Phase 6 Model:

1. All Extractive land in Maryland is regulated by an NPDES industrial stormwater permit. **Regulated lands should not fall into the Mixed Open Land Use category.**
2. Loads from Extractive lands were included in the WLA portion of the Bay TMDL. Since they are regulated in the TMDL, with reductions, they should be explicitly represented in any modeling for implementation purposes.
3. Maryland's Phase II WIP specifies reductions from Extractive lands.
4. Maryland has an accurate spatial delineation of all Extractive lands in the State. Phase 6 Model development principles dictate that different jurisdictions may have different data, and the best available data should be used; the least common denominator should not be applied.
5. The Bay watershed portions of some counties in Western Maryland are dominated by mining activities. Because mining activities are regulated under industrial stormwater permits, they are required to implement SWM BMPs to reduce runoff and loads from on-site. Applying additional management strategies to Extractive areas can result in measurable load reductions. Western Maryland counties have applied some of these strategies in their Phase II WIP plans.
6. If Extractive lands are removed from the model because we don't have good data to determine their relative loading rates, this might set a precedent that we should exclude other regulated land-uses that have very limited data supporting their relative loading rates, such as construction and tree canopy. In addition, there are other land-uses from the Phase 5 Model besides Extractive, such as Mixed Open, that will be included in the Phase 6 Model, which did not have expert panel reports developed.
7. Under the current industrial stormwater permit for mining activities in Maryland, facilities are required to do monitoring of what is being exported from their site. This data, when finalized and available, could be used to determine a relative loading rate for Extractive land. The Partnership should leave Extractive lands in the model with the understanding that data should be available in the coming years to help inform a loading rate for future model iterations.
8. If Extractive lands are lumped with Mixed Open, and Extractive BMPs can still be applied to Mixed Open, this will enable local jurisdictions who employed strategies to Extractive lands in the Phase II WIP to continue with those same strategies in Phase III. However, since the relative loading rate for Mixed Open in Phase 6 is much lower than the relative loading rate for Extractive in Phase 5, the absolute loading reductions from these strategies will be vastly different.