

ACCOUNTING FOR GROWTH WORK GROUP Background Information for Nutrient Offset Discussion

Introduction

The Bay TMDL sets the maximum amount of nitrogen (N), phosphorus (P) and sediment that the Bay can receive and still meet water quality standards. The Bay WIP is the plan for reducing existing loads (baseline load reductions) to meet the TMDL's sector allocation and to maintain that level of loading (accounting for growth or AfG) in sector loads.

In addition to the Bay TMDL, there are "local" TMDLs for various tidal and nontidal waterbodies that are impaired. Meeting the Bay TMDL will assure achievement of the local tidal nutrient impairments.¹ This is not necessarily true for local nontidal nutrient impairments: reductions steeper than those in the Bay TMDL may be needed to meet a local TMDL. In contrast to the timetable for the Bay TMDL, Maryland is not required to meet these local TMDLs by a particular date; however, Maryland needs to demonstrate progress and account for growth in local TMDLs.

The State received overall allocations of N, P and sediment from the US Environmental Protection Agency (EPA) consistent with the Bay TMDL. The State, in turn, allocated those loads to the various source sectors. The WIP provides a plan for making baseline load reductions, that is, reducing the current load to match the allocation.² A similar process was used for the local TMDLs. The sector allocations have been set, and neither the Bay TMDL nor local TMDLs have an allocation for new urban loads.³

To acknowledge that there is no allocation for new urban loads, however, does not necessarily mean that 100% of the post-development load must be offset. We know, for example, that if a watershed were 100% forested, the watershed would not be impaired for nutrients, but even forest land contributes small amounts of N and P. Requiring offsets to a level other than zero could be acceptable, if it could be demonstrated that the TMDLs are met and new loads are accounted for.

There are at least 3 ways of securing the allocation: 1) making further reductions beyond what is currently planned for the urban sector to balance the new urban load to match the allocation; 2) shifting an allocation from one source sector to the urban sector, which will require reductions beyond what is currently planned for the other sector; or 3) allowing trading of reduction credits to balance the new urban load. In each case, the State is

¹ Based on incremental reduction scenario results, all tidal portions of the Bay tributaries (Bay WQ segments) achieve Dissolved Oxygen (DO) standards before CB4MH (Middle Chesapeake Bay Mesohaline), which is the most critical area of the Bay. This means that all Bay segments (tidal portions of the rivers) achieve DO criteria at loadings higher than the Bay TMDL allocation scenario.

² Maryland's WIP demonstrates that selecting BMPs to control nitrogen and phosphorus also meet the sediment allocations by a wide margin as was discussed in the February Work Group meeting. For these reasons, EPA has agreed that sediment not be incorporated into accounting for growth programs at this time.

³ The exception is that there is a growth allocation inherent in the caps of wastewater treatment plants, which might serve urban development.

responsible for assuring that the finite allocations are managed in a responsible way on behalf of the public and that a proper accounting is made.

General Approach

N and P need to be accounted for in the Bay TMDL. If there is a local P impairment, we also must be sure we demonstrate progress toward the local TMDL. Thus, the considerations will be different depending on whether the development is in a locally P-impaired watershed or not.

Special case: Redevelopment and infill development

If redevelopment and infill development are defined to be development where the preexisting land use was urban, that land has an urban stormwater allocation. If the development complies with the stormwater management regulations applicable to development or redevelopment, the post-development load will probably be lower than the pre-development load, making it likely that the Bay TMDL will be met and maintained, and that progress can be demonstrated toward the local TMDL, if the development is in a locally-impaired watershed. In either case, no offsets would be required for N or P for stormwater. If, however, the development is not required to follow the stormwater management regulations (e.g. if the development is grandfathered), this redevelopment or infill development would have to meet all offset requirements for both the Bay and local TMDLs.

Basic AfG Options – there may be others

Alternative A

1. Address N loads from new development everywhere in the state, requiring that either the entire post-development load be offset or the difference between the post development load and the forest load.
2. Address P loads from new development only if the development is in a watershed with a local P TMDL

Justification for Alternative A

In local watersheds that are not impaired for P, requiring that the total post-development load of N be offset should, in most cases, assure that the post-development P load is also offset for purposes of meeting and maintaining the Bay TMDL. An additional level of assurance could be provided if the developer were required to demonstrate that the BMPs on the development site (and any BMPs needed for N offsets) are at least as effective at removing P as N.

Alternative B

1. Address N and P loads from new development everywhere in the state.
2. Calculate the post-development load of N and P, recognizing that the stormwater controls and other BMPs on site will reduce both, although not with equal effectiveness.
3. Recognize the fact that there is no allocation for this new load.
4. Find N and P credits to offset the post-development load; these credits can be generated from the same practices or different practices.

5. If the development is in a watershed with a local P impairment, the offsets must be in the same subwatershed as the development
 - a. For an impaired reservoir, anywhere in the reservoir subwatershed
 - b. For an impaired stream, upstream of the development in the same subwatershed.

Alternative C

1. Address N and P loads from new development everywhere in the state.
2. Calculate the post-development load of N and P, recognizing that the stormwater controls and other BMPs on site will reduce both, although not with equal effectiveness.
3. Recognize the fact that if a watershed were 100% forested, the surface water would not be impaired, but that even forest land contributes small amounts of N and P.
4. Find N and P credits to offset the post-development load to the equivalent of forest load; these credits can be generated from the same practices or different practices.
5. If the development is in a watershed with a local P impairment, the offsets must be in the same subwatershed as the development
 - a. For an impaired reservoir, anywhere in the reservoir subwatershed
 - b. For an impaired stream, upstream of the development in the same subwatershed.

Alternative D – *Undermines the policy of preserving cropland*

1. Address N and P loads from new development everywhere in the state.
2. Calculate the post-development load of N and P, recognizing that the stormwater controls and other BMPs on site will reduce both, although not with equal effectiveness.
3. Compare this post-development load with the allocation the land had in its pre-development state, that is, the load it would have had if it implemented the reductions required in the more stringent of the Bay TMDL or local TMDL.
4. If the post-development load is higher than the allocation for the pre-development load, the difference must be offset.
5. Find N and P credits to offset the post-development load; these credits can be generated from the same practices or different practices.
6. If the development is in a watershed with a local P impairment, the offsets must be in the same subwatershed as the development
 - a. For an impaired reservoir, anywhere in the reservoir subwatershed
 - b. For an impaired stream, upstream of the development in the same subwatershed.
7. If the post-development load is lower than the allocation for the pre-development load, either no offset is needed or the development generates credits.