



To: Jon Laria, Chair, Maryland Sustainable Growth Commission
Maryland Sustainable Growth Commissioners

From: Alan Girard, MSGC WIP Workgroup Chair
Pat Langenfelder, MSGC WIP Workgroup Vice-Chair

The WIP Workgroup met on August 29 to review MDE's draft Accounting for Growth regulations and to continue discussions on presenting formal recommendations on the policy to the Sustainable Growth Commission.

Since the current draft regulations are silent on several issues of concern to WIP Workgroup members and significant differences of opinion on aspects of the current draft remain, the WIP Workgroup is deferring a presentation of recommendations to the Commission until additional information on the draft regulations is available from MDE and another meeting can be scheduled to work through the details. A tentative meeting of the WIP Workgroup is being scheduled for the 3rd week of October, so the WIP Workgroup can report back to the Sustainable Growth Commission at a special meeting tentatively set for November 8th.

As an interim measure, the WIP Workgroup is providing this update to the Commission on items currently being discussed. This update is only intended to summarize the issues currently under review and is not a formal statement or recommendation of the Workgroup.

Item #1: Grandfathering/Timing

The policy must begin at a certain date and currently the Phase I WIP states that Maryland will have a fully implementable Accounting for Growth Strategy by the end of 2013. SB 236 (the septic bill) also requires the Department of the Environment to propose regulations on or before December 31, 2012 that establish nutrient offset requirements for new residential major subdivisions within Tier III areas that are to be served by on-site sewage disposal systems or shared systems. There currently is no indication in the regulation as to when developers will be required to purchase offsets.

WIP Workgroup points of discussion:

1. Identify a period of time during which anyone required to offset their load would not have to purchase offset credits according to the regulations.
2. Loads generated during a grandfathering period would be required to be offset by the public sector.
3. Determine the point at which development proposals that have received certain reviews, approvals, or permits may justify being grandfathered.

Item #2: Fee-in-Lieu

Including a fee-in-lieu structure in the regulations may be advisable to allow developers to pay into a fund used for BMP establishment instead of purchasing offsets credits and establishing pollution reduction practices outright.

WIP Workgroup points of discussion:

1. Fee-in-lieu would provide flexibility to developers. It would allow them to pay into a fund rather than search for credits far from their development or there may be a lack of credits available to offset their load.
2. Existing fee-in-lieu programs have often resulted in lack of implementation (forest conservation, wetland mitigation, etc.) and uncertainty about whether impacts the fund is intended to address are fully mitigated. Funds often sit unspent for a number of reasons.
3. Fee-in-lieu must be an option of last resort. If the fees are too low they will not incentivize avoidance, minimization, and permittee-responsibility for offsetting impacts and would likely result in increased loads without an offset.

Item #3: Loads Required to be Offset

When a property is developed, levels and type of pollution can change, in addition to the land use classification. Sometimes the resulting land use pollutes less and sometimes it pollutes more.

WIP Workgroup points of discussion:

1. Where a development reduces an existing high-polluting load, developer credit for this reduction should be considered.
2. The highest polluting land uses, according to the Bay model, are agricultural uses. Giving credit for land use conversion from undeveloped farmland to developed land would incentivize farmland loss by eliminating the need to offset the development and possibly even generating credits to offset other development.

Item #4: Permanence

Since growth is largely permanent, the regulations generally require that a practice generating credits for offsetting growth also be permanent. Perpetuity is not specifically defined in the regulations.

WIP Workgroup points of discussion:

1. Requiring permanent offsets could reduce the pool of potential offsets.
2. Assuring offsets remain permanent is uncertain when businesses or land ownership where the offsetting practice occurs closes or changes hands.
3. Allowing non-permanent offsets would exacerbate challenges of reducing pollution in later years to meet Maryland's pollution reduction commitment.
4. Non-permanent offsets less reliably account for new pollution generated from development because they have to be renewed frequently.
5. Setting a timeframe for how long a load must be offset could provide certainty for developers and allow for jurisdictions to determine how to offset loads from development in perpetuity.

Item #5: Protecting local water quality

The regulations and TMDL state that a load may not be added to an already impaired waterbody.

WIP Workgroup points of discussion:

1. Limiting trades within areas that have no potential offsets could halt growth in those areas.
2. Allowing local loads to increase by the purchase of offsets somewhere else doesn't protect local water quality.
3. Not all of the local water bodies have a local TMDL.

Item #6: Trading Geographies

The current trading policies allow only for trades within 3 watersheds: Potomac, Patuxent, and everywhere else. The regulations require that development outside of Targeted Growth and Revitalization Areas (TGRA, a PlanMD geography) offset its growth within the county it occurs, whereas development within the TGRA can offset anywhere in the state.

WIP Workgroup points of discussion:

1. Trading geographies that limit offset generation to the county in which the development is proposed may have limited capacity to offset pollution from new growth and can discourage higher-polluting types of development.
2. Requiring local offsets could create competition between local governments and developers for best management practices.
3. Removing any restrictions eliminates incentives for directing growth to appropriate areas and creates conflict between state directives (TMDL, Smart Growth).
4. Removing restrictions could further endanger local water quality.

Item #7: Third-Party Verification

The current trading policy requires that practices implemented to provide credits for trading be in place before the credit can be placed on the registry. Once a practice is or practices are submitted to MDA through the Nutrient Trading Website a trained representative from the local soil conservation district or an MDA employee goes to the farm to verify that the practice has been installed properly and is functional.

WIP Workgroup points of discussion:

1. Does the current framework for inspection and certification provide enough assurance and transparency?
2. Will there be a process for the private sector to train inspectors for third-party verification? What would that training look like?
3. Currently the trading policy only applies to credits generated by agricultural activities. Who would provide verification for other practices like septic connections, minor WWTP upgrades, and stormwater retrofits?
4. Greater clarity, simplicity, and transparency of the verification and trading processes are necessary in order for participation by private entities. The 2008 EPA rules on Wetland Banking and Credits have been proposed as a model approach.
5. While MDE is, and should remain, ultimately responsible for assuring that offsets are obtaining the claimed nutrient reductions an independent, third-party verifier and tracker could provide the level of confidence necessary for a market to develop.
6. Agricultural stakeholders have expressed “great concern” over use of third party enforcement and/or verification.

Draft dated August 27, 2012
For Discussion Purposes Only

Title 26 Department of the Environment
Subtitle 08 Water Pollution
Chapter 11 Chesapeake Bay Restoration

.01 Purpose.

These regulations establish requirements and procedures for offsetting loads of nitrogen from changes in land use in order to achieve and maintain Maryland's Chesapeake Bay Total Maximum Daily Loads for nitrogen, phosphorus and sediment as established by the U. S. Environmental Protection Agency, and the State-developed Total Maximum Daily Loads for nitrogen, phosphorus and sediment applicable to Maryland's portion of the Atlantic Coastal Bays.

.02 Scope.

These regulations apply to any development or redevelopment that:

- A. Results in a change in land use and
- B. Disturbs one (1.0) or more acres of land in the Maryland portions of the Atlantic Coastal Bays or Chesapeake Bay Watersheds.

.03 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

- (1) "Atlantic Coastal Bays (Coastal Bays)" means Newport Bay, Isle of Wight Bay, Assawoman Bay, Sinepuxent Bay and Chincoteague Bay.
- (2) "Atlantic Coastal Bays Total Maximum Daily Load (Coastal Bays TMDL)" means the load allocated as established in the State-developed TMDL.
- (3) "Best Available Technology (BAT)" means a technology that has been approved by the Department as a best available technology for removing nitrogen from onsite sewage disposal systems.
- (4) "Bay Model" means U. S. Environmental Protection Agency's Chesapeake Bay Program's Watershed Model 5.3.2 or the most recent revision.
- (5) "Biological Nutrient Removal (BNR)" means the process of removing contaminants from wastewater and household sewage to produce effluent equal to or better than 8 milligram per liter total nitrogen.
- (6) "Chesapeake Bay Total Maximum Daily Load (Bay TMDL)" means the load allocated to Maryland as established by the U. S. Environmental Protection Agency.
- (7) "Change in land use" means:
 - (a) Conversion of land from an agricultural, forest, recreational or other natural land use/land cover type to an industrial, commercial, institutional or residential use;
 - (b) Increase in residential density; or

- (c) A change in the runoff characteristics of a parcel of land in conjunction with residential, commercial, industrial, or institutional construction or alteration.
- (8) “Chesapeake Bay Program” means that regional partnership that leads and directs Chesapeake Bay restoration and protection; the partners are the states of Maryland, Pennsylvania, Virginia, West Virginia, Delaware and New York, and the District of Columbia, the Chesapeake Bay Commission, and the U.S. Environmental Protection Agency.
- (9) “Delivered load” means the amount of a pollutant delivered to the main stem of the Chesapeake Bay or Coastal Bays.
- (10) “Enhanced Nutrient Removal (ENR)” means the process of removing contaminants from wastewater and household sewage to produce effluent equal to or better than 4 milligram per liter total nitrogen.
- (11) “Edge of Stream (EOS)” means the amount of pollution reaching surface waters at the boundary of a Chesapeake Bay Watershed Model segment.
- (12) “Environmental Site Design (ESD)” means the use of small-scale stormwater management practices, nonstructural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources, as required by the Maryland Stormwater Management Act of 2007.
- (13) “Equivalent dwelling unit (EDU)” means a measure of wastewater generated where one unit is such that:
- (a) If a local government or billing authority for a wastewater facility has established a definition for “equivalent dwelling unit” on or before January 1, 2004, the average daily flow of wastewater generated that the local government or billing authority has established to be equivalent to the average daily flow of wastewater generated by a residential dwelling, which may not exceed 250 gallons; or
- (b) If a local government or billing authority has not established a definition for “equivalent dwelling unit” on or before January 1, 2004, or if a local government or billing authority has established a definition that exceeds 250 gallons of wastewater generated per day, an average daily flow of 250 gallons of wastewater generated.
- (c) A non-residential establishment shall use “Design Guidelines for Wastewater Facilities” Maryland Department of the Environment, Engineering and Capital Projects Program (2012) to determine the number of EDUs; however, a business establishment may not have a value less than one (1) EDU.

- (14) “Forest” means, for purposes of this regulation, land having the characteristics of a forest as defined by the Forest Conservation Act or, if within the Critical Area, by the Maryland Critical Area Act; other wooded areas are considered to be pervious surface.
- (15) “Impervious surface” means roads, rooftops, parking lots and other hardened surfaces that do not allow precipitation to penetrate into the soil.
- (16) “Load” means the mass of total nitrogen in pounds per year.
- (17) “Loading rate” means number assigned in the Bay Model to represent the mass of nitrogen per acre, by land use.
- (18) “Nutrient Cap” means the permitted point source wasteload allocation for nutrients.
- (19) “Offset” means:
 - (a) Counterbalance an increase of nitrogen loads with other reductions; or
 - (b) The pounds of nitrogen loads that must be counterbalanced.
- (20) “Pervious surface” means an area that has a surface that permits water to penetrate underlying soil.
- (21) “Redevelopment” means any construction, alteration, removal, or improvement performed on existing impervious area at a site where existing land use is commercial, industrial, institutional, or multifamily residential and existing project site impervious area exceeds 40 percent.
- (22) “Secondary treatment” means the process of removing contaminants from wastewater and household sewage to produce effluent equal to or better than 18 milligram per liter total nitrogen.
- (23) “Total Maximum Daily Load (TMDL)” has the meaning stated in § 303(d)(1) of the Clean Water Act, 33 U.S.C. § 1313(d)(1).
- (24) “Wasteload allocation (WLA)” means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution by a TMDL.
- (25) “Wastewater Treatment Plant (WWTP)” means a facility designed and constructed to receive, treat, or store sewage or sewage combined with other waterborne waste that holds a discharge permit issued by Maryland.

.04 Except as provided in Regulation .05 D and E of this chapter, if there is a change in land use as a result of development or redevelopment that disturbs one (1.0) or more acres of land in the Maryland portions of the Coastal Bays or Chesapeake Bay Watersheds, the developer must offset the post-development loads in accordance with these regulations.

.05 Calculation of post-development load and offset amount.

A. Except as provided in Regulation .05 D and E of this chapter, the EOS post-development nitrogen load shall be calculated as follows:

- (1) Subsurface discharges and land application of wastewater.
 - (a) 4.93 lbs of total nitrogen per year per EDU for each new residential or non-residential BAT subsurface system;
 - (b) 9.86 lbs of total nitrogen per year per EDU for each new residential or non-residential conventional septic system; and
 - (c) Zero (0) lbs of total nitrogen per year for development served by a system with land application of treated wastewater subject to a discharge permit requiring zero discharge of nitrogen to groundwater.
- (2) Surface discharge through a Wastewater Treatment Plant.
 - (a) Zero (0) lbs of total nitrogen per year for development served by WWTPs that can treat and discharge the wastewater in compliance with the WWTP's discharge permit and nutrient WLA.
 - (b) New development may not connect to a WWTP that does not have available capacity below its discharge permit and nutrient WLA unless the WWTP is able to offset the new load in accordance with applicable law, regulation, and permit conditions; the load to be offset in lbs of total nitrogen per year shall be calculated as the product of the number of EDUs times:
 - (i) 13.7 for WWTPs using secondary treatment;
 - (ii) 6.1 for WWTPs using BNR; and
 - (iii) 3.1 for WWTPs using ENR.
- (3) Post-development stormwater load for development in accordance with the Maryland Stormwater Management Act of 2007 shall be calculated as follows:

$$0.5 * [(L_i)(A_i) + (L_p)(A_p)] + [(L_f)(A_f)], \text{ where:}$$

L_i = The State-wide impervious surface loading rate before ESD (currently 15.34 lb N /acre/year)

L_p = the State-wide average pervious surface loading rate before ESD (currently 10.78 lb N /acre/year)

L_f = the State-wide average forest loading rate (currently 3.0 lb N /acre/year)

A_i = Acres of impervious surface on the parcel, post-development

A_p = Acres of pervious surface on the parcel, post-development

A_f = Acres of forest on the parcel, post-development,

- (4) Post-development stormwater load for development that received an Administrative Waiver from the requirements of the Maryland Stormwater Management Act of 2007 under COMAR 26.17.02.01-2 or that is otherwise exempt from the Stormwater Management Act of 2007 shall be calculated to reflect the actual EOS post-development nutrient pollution load.
- (5) Nitrogen from mobile sources associated with development.
 - (a) No offset for nitrogen from mobile sources is required for a non-residential EDU.
 - (b) If the centroid of the development is in a census tract with density equal to or greater than 10,000 persons per square mile, the post-development load from mobile sources is 0.5 pounds of nitrogen per residential EDU;
 - (c) If the centroid of the development is in a census tract with density less than 10,000 persons per square mile, the post-development load from mobile sources is 1.0 pound of nitrogen per residential EDU.

B. The total post-development load, expressed as EOS, is the sum of A(1), A(2), A(3), A(4) and A(5).

C. Post-development EOS loads will be converted to delivered loads for purposes of determining how many credits are needed as offsets.

D. No offset of the post-development stormwater load is required for redevelopment that complies with the Maryland Stormwater Management Act of 2007.

E. After December 31, 2025, if the Chesapeake Bay is not meeting water quality standards for dissolved oxygen or clarity or is otherwise impaired by nutrients or sediments, development :

- (1) Except as provided in Regulation (2), the offset for any development in the Chesapeake Bay watershed shall be four (4)

times the post-development load, as calculated in Regulation .05 of this chapter, of the pollutants for which the water quality standards are not met; and

- (2) If the developer can demonstrate, to the satisfaction of the Department, that the county where the development will be located has implemented actions designed to meet the Bay TMDL, the post-development load shall be as calculated in Regulation .05 of this chapter, except that the stormwater offset in Regulation .05A(3) of this chapter shall not require an offset for post-development loads from forest;

.06 Obtaining offsets.

- A. Offsets must be continued as long as the load being offset exists; in most cases, this means the offsets must be permanent or that the developer demonstrates, to the satisfaction of the Department, that the stormwater offset structure or facility will be operated and maintained perpetually, and replaced when necessary.
- B. Examples of permanent offsets are forested buffers that are protected by covenants or easements recorded in the land records, septic systems that are upgraded to BAT standards to remove nitrogen and point source credit generated by WWTPs in accordance with Maryland Nutrient Trading Policy.
- C. If a local government that assesses a stormwater utility fee enters into a Development Rights and Responsibilities Agreement with the developer to operate, maintain perpetually, and replace when necessary the stormwater offset structure or facility, the developer will be deemed to have assured that the offset is permanent.
- D. Offsets may be purchased from the Maryland Nutrient Trading Program (<http://mdnutrienttrading.org/>).
- E. Offsets may be directly purchased, constructed or planted provided they meet the requirements of Maryland's Nutrient Trading Policies and these regulations.

.07 Proof of Nutrient Credits

A. General Requirements.

- (1) The developer must provide satisfactory documentation of offset credits to the Department prior to the issuance of a General Discharge Permit or an individual discharge permit issued under COMAR 26.08.04.

- (2) Only point source credits certified by the Department or another legally authorized certifier, and nonpoint source credits certified under the Maryland Agricultural Nutrient Credit Certification process or another legally authorized certifier, can be used for offsets.

B. Expiration of Nutrient Credit Certification.

- (1) Except as provided in Regulation (2), if a nutrient offset certification is not used, it shall expire after a period of three years from the date of issuance if construction has not commenced, or after a period of 5 years under any circumstances.
- (2) If a request for an extension is made, the Department may, for good cause shown, extend the certification of the credit for an additional period of time.

C. Specific information requirements. The developer shall submit to the Department the following:

- (1) The location of the development.
- (2) Estimated date of start of construction.
- (3) Estimated date of completion of construction.
- (4) The estimated total acreage of the planned development.
- (5) The percent impervious, pervious and forest of the planned development at completion.
- (6) The method of sewage disposal.
- (7) A calculation, consistent with Section .05 of this regulation, showing the post-development nitrogen load for the completed development.
- (8) A demonstration, satisfactory to the Department, that the offsets will continue to provide nutrient reductions at least as long as the loads that they are offsetting will be generated.
- (9) Evidence of a sufficient number of credits to offset the delivered post-development load from the development, certified by the Department, other legally authorized certifier, or under the Maryland Agricultural Nutrient Credit Certification process.

D. The Department or its agent may require more information and an onsite examination before accepting certified credits. The Department may require

proof of legally enforceable contractual obligations and direct monitoring to ensure that all load reductions are met and maintained.

DRAFT



Maryland Department of the
Environment

FACTS ABOUT: ACCOUNTING FOR GROWTH

WHY DO WE NEED TO ACCOUNT FOR GROWTH?

To restore the Chesapeake Bay, we not only have to reduce the current amount of nitrogen, phosphorus and sediment entering the Bay, but also hold the line against new pollution. Population increase and economic growth add more pollution to the Bay, and, unless properly addressed, will defeat our restoration efforts.

HOW WILL WE ACCOUNT FOR GROWTH?

Maryland is proposing a plan for achieving and keeping a healthy Bay for our children and grandchildren while allowing for robust population and economic growth. Maryland will address the pollution from new development in two ways: 1) MDE has allotted nutrient loads to large wastewater treatment plants that allow them to take sewage from new development, provided they stay below the allocation or “nutrient cap”; 2) Other new loads from development (septic loads, wastewater over the nutrient cap, stormwater and air emissions) must be offset.

The plan MDE is proposing is called Accounting for Growth, “AfG” for short. It will encourage developers to plan and locate their developments so they pollute as little as possible, and require them to offset the remaining pollution by securing reductions elsewhere. Under this proposal, developers will calculate how much nitrogen will come from each completed project, and to the extent this “load” was not already factored into the Bay’s pollution diet, find reductions to counterbalance or “offset” this nitrogen. Projects that disturb one or more acres of earth in the Chesapeake Bay or Coastal Bays Watersheds will be covered by AfG.

Redevelopment has many environmental advantages over development on farms or forest land. The proposed AfG policy favors redevelopment by relieving the redeveloper of having to offset the nitrogen from stormwater.

WHY ONLY NITROGEN, NOT PHOSPHORUS AND SEDIMENT?

The proposed AfG policy is based on nitrogen exclusively. By managing the nitrogen load, we will ensure that the goals for phosphorus and sediment are also met Bay-wide.

Nitrogen from development is frequently more difficult to control than phosphorus and sediment because it is relatively soluble in water. For precipitation-driven nonpoint source runoff, practices like sediment and erosion control, stormwater management practices and environmentally sensitive site design can be expected to be more effective at removing sediment and phosphorus than nitrogen.



Maryland Department of the Environment
1800 Washington Boulevard | Baltimore, MD 21230-1718 | www.mde.state.md.us
410-537-3000 | 800-633-6101 | TTY Users: 800-735-2258
Martin O'Malley, Governor | Anthony G. Brown, Lt. Governor | Robert M. Summers, Ph.D., Secretary

HOW WILL A DEVELOPER CALCULATE THE LOAD?

MDE has a tool on its website that can be used to calculate how much nitrogen would reach surface water from a completed development. Details such as number of dwelling units, total acres of development, percentage of impervious surface, type of wastewater treatment, census information and gross square footage of building (for commercial) are inputted and the tool performs the calculations. Loads are adjusted as credits are bought and sold based on proximity to the Bay.

HOW CAN A DEVELOPER OFFSET THE LOAD?

A developer may undertake a project that reduces nitrogen pollution in the vicinity of the development, or the developer can buy nitrogen credits from an individual or through an exchange market. Only someone who has already met the pollution diet can generate credits for sale by reducing nitrogen even further.

The offset the developer secures must last as long as the load it is offsetting. In most cases, this will require permanent offsets such as forested buffers that are protected by covenants or easements recorded in the land records, removal of septic systems and connecting those homes to wastewater treatment plants with room under their nitrogen caps, and upgrading septic systems to best available technology to remove nitrogen.

Some structural stormwater practices could be considered permanent offsets, but they will require maintenance and perhaps replacement in the future. These practices cannot be used by a developer as credits unless the developer obtains a commitment from the local government that it will maintain the practice. This agreement could be part of a Development Rights and Responsibilities Agreement, and the local government could pay for its undertaking with a stormwater utility fee.

The purchase and sale of credits is called trading, and is governed by State policies that require verification and tracking of the credits and measures to protect local water quality. AfG may constrain trading that would otherwise be allowed by the trading policies in order to protect counties and enable them to optimize the use of their growth capacity and available offsets.

WHEN WILL THE POLICY BE FINAL AND IMPLEMENTED?

Maryland committed to having a growth offset process in place by the end of 2013. SB 236, The Sustainable Growth and Agriculture Protection Act of 2012 better known as “the septic bill,” requires MDE to propose offset provisions for Tier III areas by the end of 2012. These two offset programs should be consistent, and the plan is to propose both by the end of 2012.

This policy will be implemented through rulemaking, permitting and the development of markets for obtaining offsets. It may be necessary to phase implementation of the policy to avoid an unfair application of new regulations.

Additional information and the offset calculation tool are available on MDE’s web page, www.mde.state.md.us. Click on the Chesapeake Bay Watershed Implementation Plan and then Accounting for Growth or go to: http://www.mde.state.md.us/programs/Water/TMDL/TMDLImplementation/Pages/Accounting_For_Growth.aspx.

