

| Concept | Alt #1 | Alt #2 | Alt #3 | Work Group |
|--|--------|--------|--------|--|
| I. Applicability – THRESHOLD | | | | |
| A. Triggers -- What types of activities are subject to the offset policy unless they fall below the threshold or are specifically | | | | |
| 1. Construction that causes a change in land use from the land use category of forest, agriculture, or other undeveloped land (e.g., barren) to developed land (urban and suburban) – <i>low priority</i> | | | | |
| 2. The alteration of land, or construction or alteration of a structure that creates a disturbed area equal to or above the threshold limit and (1) increases the waste water load, or (2) increases the nonpoint source pollution coming from the parcel. Change in land use alone does not trigger the offset policy. Changes in agricultural activities such as changes (other than buildings/structures) in crops do not trigger the offset policy. | ✓ | ✓ | ✓ | ✓ |
| 3. Exclude most agricultural activities in particular changes in crops and acreage tilled year to year – <i>MDA response needed</i> | | | | |
| 4. Exclude agricultural activities unless the new category has a higher loading rate (e.g., crop) than the previous category (e.g., pasture) – <i>MDA response needed</i> | | | | |
| B. Thresholds – what size of development has so little impact that it should be excluded for coverage by the policy – | | | | |
| 1. No threshold, but provide a simplified payment in lieu for projects less than one acre | | | | |
| 2. 1 acre (43,000 square feet) of disturbed land | ✓ | | ✓ | |
| 3. 20,000 square feet of disturbed land | | | | |
| 4. 5,000 square feet of disturbed land | | ✓ | | Consensus: However, reduced fee offered for disturbed land between 5000 sq. ft. to acre; <i>need to define reduced fee.</i> Acre and above is full compliance; talk about addressing county delegation |
| 5. Any new construction that adds an additional dwelling unit or commercial structure to the property | | | | |
| C. Exceptions – what kinds of beneficial projects should be excluded from coverage by the offset policy – THRESHOLD | | | | |
| 1. General rule for exceptions | ✓ | | ✓ | |
| 2. Case-by-case exception process administered by MDE - eliminate | | | | |
| 3. Installation of BMPs – stormwater | ✓ | | ✓ | |
| 4. Upgrading or maintenance of BMPs – stormwater | ✓ | | ✓ | |
| 5. Stream Restoration – stormwater | ✓ | | ✓ | |
| 6. Upgrading WWTPs without increase in hydraulic capacity – waste water | | | | |
| 7. Upgrading WWTPs simultaneously with increasing hydraulic capacity – waste water | | | | |
| 8. Exceptional public benefits projects that further social, economic and environmental sustainability, e.g., a park, community center, library | | | | |
| 9. Broad exemption for public works projects, conceivably including transportation projects (define or create a list of the types of public works projects. both local and state-level. that would be exempt) | | | | |

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| A. Available or not, under what circumstances – THRESHOLD | | | | |
| 1. No fee-in-lieu – NOT VIABLE OPTION | | | | |
| 2. No fee in lieu except for projects affecting less than 1 acre | | | | |
| 3. Fee in lieu only established (subject to these provisions) if private nutrient credit market has not generated purchase opportunities. - Fee-in-lieu can only be made available if adequate capacity to implement offset BMP within a defined period of time (1 year?) is not available in the watershed. - Fee-in-lieu funds only be spent on BMP implementation (with a defined limit on administrative costs). - MDE implements BMP to offset load within a defined period (1 year). | | | | |
| 4. Fee-in-lieu available for N and P, payable to the BRF, based on a conservative cost estimate (including O&M for a set time frame) of an urban BMP at a 2 to 1 ratio. | | | | |
| 5. Fee-in-lieu available for N and P, payable to the BRF, - Based on a conservative cost estimate (including O&M for a set time frame) of an urban BMP at a 2 to 1 ratio. -Developer must meet hardship criteria demonstrating that: minimization and on-site mitigation have been exhausted to the maximum extent possible; credits from the private market are unavailable. -Projects are completed in advance using developer-sponsored bond that is repaid through FIL contributions. - FIL is statutorily required to sunset after a period of three years. FIL shall represent a specified declining share of all offset transactions between program initiation and sunset. | | | | |
| 6. Establish a fee-in-lieu for N, payable to the BRF for septic upgrades | | | | |
| 7. Fee in lieu with a 5-year sunset, with the possibility of renewal upon demonstration of program success | | ✓ | | |
| 8. Fee-in-Lieu is permanent option | ✓ | | ✓ | ✓ |
| B. Payable to whom, and for what purposes – Dependent | | | | |
| 1. Establish a fee-in-lieu for N, payable to the BRF for septic upgrades | | | | |
| 2. Fee-in-lieu available for N and P, payable to the BRF for projects that reduce N and P | | | | |
| 3. Establish a fee-in-lieu (language on what fee-in-lieu is/how it is used/deterrant/safety valve) for N and P with first right of refusal to local governments (to run program) based on set of criteria on how/when funds are used; should have checks and balances in place for how/when fees are used to offset load (using permanent or temporary BMPs); whoever runs program is responsible for offsetting loads with BMP practices and maintaining practices; money would be reverted to BRF if not used based criteria; timeframe (needs to be defined) of when responsible party must have practices in place; local water impairment situations have to be addressed by program; goal is to get nutrient reduction on the ground as fast as possible to offset any increases in load; provision for periodic review of price; establish fee-in-lieu committee | ✓ | ✓ | ✓ | ✓ |
| 4. Fee goes to a dedicated County or Municipality fund for projects that reduce nutrients and sediment | | | | |
| C. Setting the cost of the Fee-in-Lieu – Dependent | | | | |
| 1. Base fee on the average fully loaded cost (including the cost of design, contract administration, O&M for a set time frame, etc.) of an urban BMP. The fee is likely to be considerably higher than the average nutrient market price and thus is unlikely to impede the development of a nutrient trading market. | ✓ | ✓ | ✓ | |

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| 2. Based on weighted average cost, (including O&M for a set time frame) of a range of permanent (urban OR all) BMPs; price is adjusted based on 3 year average costs | | | | |
| 3. Based on \$3000 fee-in-lieu cost | | | | Developers, MACo, MML |
| 4. Based on \$3500 fee-in-lieu cost | | | | South River Fed, CBF, CBC |
| 5. 3 year review; price is adjusted based on continuous 3 year rolling average actual costs on permanent practices (credit generation or WIP compliance projects) that will begin starting in Year 3; establish FIL Work Group | | | | ✓ |
| IV. Which Pollutants – THRESHOLD; Sets the scope of program | | | | |
| 1. Nitrogen, phosphorus and sediment statewide | | ✓ | | |
| 2. Nitrogen and phosphorus statewide | | | | |
| 3. Nitrogen statewide and phosphorus if in a watershed with a local phosphorus TMDL | ✓ | | | |
| 4. Nitrogen statewide and phosphorus and/or sediment if in a watershed with a local phosphorus and/or sediment TMDL | | | ✓ | YES |
| V. Calculating the Post-Development Load – Dependent | | | | |
| A. Stormwater | | | | |
| i. Stormwater Loading Factors – Scale, EOS and Delivered Loads | | | | |
| 1. Use statewide average loading rates for Delivered Load | | | | |
| 2. Use statewide weighted average loading rates for Delivered Load | | | | |
| 3. Use 5 basin loading rates for Edge of Stream and Delivered Load | | | | |
| 4. Use 5 basin EOS loading factors for locally-impaired watersheds. Use 5 basin EOS loading factors, followed by 8-digit watershed Delivery factors in all other sub-watersheds. | | | | |
| 5. Use 5 basin EOS loading factors, followed by 8-digit watershed Delivery factors | | | | |
| 6. Use 5 basin EOS loading factors, followed by Land River Delivery factors. Use Edge of Stream loading factors where there is a locally impaired segment for the TMDL-based impairment (N, P, or TSS). | | | ✓ | MACo, Developers, MML, Agricultural Community, SH, Bevin, CBF |
| 6a. Use 5 basin EOS loading factors, followed by Land River Delivery factors. Use Edge of Stream loading factors where there is a locally impaired segment for the impairment (N, P, or TSS). | | | ✓ | |
| 7. 8-digit watershed weighted average EOS loading factors | | | | |
| 8. Use Edge of Stream Loads | | ✓ | | South River Fed |
| 9. Use Edge of Stream Loads where there is a locally impaired segment (TMDL) | | | ✓ | ✓ |
| ii. Stormwater Loading Factors – Adjustments for on-site stormwater BMPs | | | | |
| 1. Default – 50% reduction of nitrogen and 60% reduction of P for ESD to the MEP | ✓ | ✓ | ✓ | ✓ |
| 2. Recognize additional reduction if developer opts to demonstrate the use of more effective BMPs, using EPA's efficiencies | ✓ | ✓ | ✓ | ✓ |
| 3. Use Expert Panel on performance standards for new development or default | ✓ | ✓ | ✓ | ✓ |
| B. On-Site Disposal Systems (OSDS) | | | | |
| i. OSDS Loading Factors – Location | | | | |
| 1. Use statewide average EOS (edge of stream) loading rate of 42.5% | | | | |
| 2. Use area specific EOS loading rate based on 3 zones (80% in CA, 50% within 1,000 feet of a stream but not in CA, 30% for all others) | ✓ | ✓ | ✓ | ✓ |
| ii. OSDS Loading Factors Adjustments for efficiency of Nitrogen removal at Edge of Field | | | | |
| 1. Default – 50% nitrogen reduction | | | | |
| 2. Use MDE, field verified nitrogen reduction credits based on type of BAT system installed. | ✓ | ✓ | ✓ | ✓ |

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| 3. Use landscape position of OSDS to determine the amount of nitrogen that may be delivered to the stream system | | | | |
| iii. Wastewater going to WWTP | | | | |
| 1. If ENR WWTP has capacity within its allocation, no offset needed | | ✓ | | |
| 2. If ENR WWTP has no capacity within its allocation, calculate loading at the N and P limits in the WWTP's permit (would require modification of WWTP's NPDES Permit) | | | | |
| 3. If ENR or BNR (took out non-ENR) WWTP with capacity within its allocation, no offset required. | | | | |
| 4. If BNR and/or Secondary Treatment, some offset needed | | | | |
| 5. If BNR, ENR and/or Secondary Treatment with capacity, no offset needed | ✓ | | ✓ | YES |
| Cathy comment - shouldn't be reallocation of wastewater capacity without agreement from affected jurisdiction; doesn't forbid county from making rules more stringent | | | | |
| iv. Atmospheric Deposition | | | | |
| 1. Default – use census tract population density to calculate increase in load by household | | | | |
| 2. Eliminate Atmospheric Deposition calculations from the calculations | ✓ | ✓ | ✓ | ✓ |
| 3. Use data on historic increases in VMT due to development to estimate increase in load per household | | | | |
| v. What Allocation, if any, should be given to the Post-Development Load (The difference between the Post-Development Load and the Allocation for the Post-Development Load equals the Offset Needed) | | | | |
| A. Stormwater | | | | |
| 1. Zero Allocation | | ✓ | | |
| 2. Forest Load Allocation | | | | CBF, Sierra Club |
| 3. The lower of the Bay TMDL or Local TMDL allocation for the pre-development land use | ✓ | | | |
| 4. Pre-development land use load using 2010 Progress Run | | | ✓ | |
| 5. The lower of the Bay TMDL or Local TMDL allocation for the post-development land use | | | | |
| 6. The lower of the post-development TMDL load or the predevelopment load | | | | |
| 7. Bay TMDL pre-development load or actual pre-development land use load, whichever is more restrictive | | | | |
| 8. Ag is hay/pasture | | | | |
| 9. MACo Proposal - The offset = (the actual post-development load for the sector) minus (the allocation in the 2025 WIP for the pre-development land use). Except: <u>Active farmland</u> (assessed as ag use) - use statewide average for pasture load, except that if the result is a negative number, it resets to zero under ag land. <u>Redevelopment</u> - Offset requirements for 20-40% impervious could be based on a sliding scale while higher levels of impervious surface could have either a minimal offset or no offset (total exemption) <u>Infill</u> - minimal or no offsets for infill projects that do not include large pervious surface areas; some offset required for large pervious surface areas for infill - DEFINE Forest - forest baseline | | | | Support (w/ more work on infill def.): MACo, MML, Developers, Steve H., Jon L. Farm Bureau Does Not Support: CBF and Sierra Club, South River Fed Not Yet Determined: 1000 Friends, CBC |
| 10. Erik Proposal - Baseline equals pasture load at 2025 TMDL target for any agricultural land - Use most restrictive of pasture load range (3.72 lbs which is most restrictive) (EPA guidance - use lower number or individual basin number) o Use 8.7 lb statewide average if restrictions in trading geographies - For forest use 2025 TMDL target (use statewide average (3 lbs)) § For urban development use 2025 TMDL target | | | | |

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| 11. "Lynne" Amendment §□ Baseline equals the load determined through onsite assessment tool (NTT) provided that the number is between the pasture load and the 2025 TMDL target at the basin level for agricultural land. | | | | |
| 12. Ag Amendment – Use 2025 pasture load at basin level can be substituted for "the allocation in the 2025 WIP for the pre-development land use" - Use land/river segment delivery ratios instead of basin average | | | | |
| B. On-Site Disposal Systems (OSDS) | | | | |
| 1. Default is zero | | | | |
| 2. Allocation should equal the load from any existing OSDS, adjusted as if they had been upgraded to BAT | ✓ | ✓ | ✓ | ✓ |
| C. Atmospheric Deposition | | | | |
| 1. Zero Baseline Load | | | | |
| 2. Existing Atmospheric Deposition | | | | |
| 3. Do not require offsets for Atmospheric Deposition (concession by ENGOs) | ✓ | ✓ | ✓ | ✓ |
| VII. How can the Post-Development Load be permanently offset – THRESHOLD | | | | |
| 1. Offsets must be definably permanent and O&M for offset must be guaranteed in perpetuity | | ✓ | ✓ | YES |
| Offsets must be definably permanent and O&M for offset must be guaranteed for a 10 year period | | | | |
| 2. Offsets to last for a minimum of 30 years; broker or aggregator can guarantee the term with approval of MDE with financial and other assurances | | | | |
| 3. Offsets to last for a minimum of 30 years; broker or aggregator can guarantee the term with approval of MDE with financial and other assurances; during 30 years, the development could be exempt from or receive credit toward the local jurisdiction's stormwater utility fee. After 30 years, the development pays the utility fee and the local jurisdiction, which assumes the responsibility for the offsets. Local government would have to have a stormwater utility fee in place | | | | |
| 4. Offsets must be definably permanent (easement or covenant); credits to last for a minimum of 30 years; broker or aggregator can guarantee the term with approval of MDE with financial and other assurances; during 30 years, the development could be exempt from or receive credit toward the local jurisdiction's stormwater utility fee. After 30 years, the development pays the utility fee and the state, which assumes the responsibility for the offsets. | | | | |
| 5. Offsets to last for a minimum of 30 years; broker or aggregator can guarantee the term with approval of MDE with financial and other assurances; with option of local gov't to take over responsibility; with some solution of who takes over responsibility for the load if the local gov't declines | ✓ | | | |
| VIII. Post-Development Load – Dependent | | | | |
| A. When do the Post-Development load offsets have to be in place - Dependent | | | | |
| 1. Require that all the offsets be in place before construction of the development begins | | | | |
| 2. Require that all the offsets (gap b/t what the developer is able to mitigate onsite and off-site credit acquisition) be in place for defined phases of the development before construction of that phase can begin | ✓ | ✓ | ✓ | ✓ |
| B. When do the Post-Development load offsets have to be made public - Dependent | | | | |
| 1. At an early stage in the process (TBD), the developer must propose the amount of offsets needed. | ✓ | ✓ | ✓ | ✓ |
| IX. Encouraging Sustainable Development Patterns – Dependent | | | | |
| A. Definitions | | | | |
| 1. Define redevelopment as pre-development parcel having at least 40% Impervious cover | | | | |
| 2. Include in redevelopment parcels having pre-development impervious cover of between 20% and 40%, and provide a sliding scale of amount of offset needed | ✓ | | ✓ | |

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| 3. Definition of infill - NEEDS MORE DISCUSSION AND DEFINITION | | | | |
| 4. Certain size developments within PFAs would shift responsibility of load to county if the county chooses to pick up load | | | | |
| B. Exemptions | | | | |
| 1. No exemptions (based on triggers) | | ✓ | | |
| 2. Exempt redevelopment from any stormwater offset | | | | |
| 3. Exempt infill from any stormwater offset | | | | |
| 4. Provide no exemptions but set target load for redevelopment at existing site condition. | | | | |
| C. Recognize other impacts of sprawl development – Using ratios to reflect the overall impact | | | | |
| 1. Require multiples of offset requirement for less sustainable patterns | | | | |
| X. Trading and Offset Reduction – THRESHOLD | | | | |
| A. Credit Generation - | | | | |
| i. On-site Credit Management | | | | |
| 1. Enhanced site design reduction practices, such as, fingerprinting of layout | | | | |
| 2. Preservation of forest practices beyond the requirements of the Forest Conservation Act. | | | | |
| 3. Reforestation/afforestation practices beyond the requirements the Forest Conservation or local riparian buffer requirements | | | | |
| 4. Credit for on site stream restoration. Would need to be approved by local jurisdiction to assure that it fits in with local policy and restoration efforts | | | | |
| 5. Refer to section V (Expert Panel) | | | | |
| 6. List of acceptable on-site credits with process for adding additional ones | | | | |
| 7. Approval process that streamlines additional/new BMPs for credit generation, including 1-6; extension of stormwater manual (by reference); provision for BMP practices as used in Bay Model (MDE's accounting for stormwater document) | ✓ | ✓ | ✓ | ✓ |
| ii. Off-Site Credit Management | | | | |
| 1. Credit for capturing offsite drainage and providing treatment (retrofit). Credit based on loading to the new facility and the type of facility installed using the CBP document on stormwater retrofitting credits | | | | |
| 2. Expand and convert a SWM facility that is immediately adjacent to the project, would need land on the project to achieve the expansion | | | | |
| 3. Conversion of existing stormwater facilities for greater pollutant removal. This would need to be approved by local jurisdictions, but would probably involve the conversion to privately owned facilities | | | | |
| 4. Installation of denitrifying OSDS systems. Need to be sure it does not conflict with local TMDL requirements. Have owners register their systems as available for installation | | | | |
| 5. Possibility for a variety of offsite reforestation offsets | | | | |
| 6. Generate credits through exceeding the requirements for redevelopment by installing greater SWM or planting. Maybe not available for revitalization projects | | | | |
| 7. Other project identified by a local jurisdiction for urban credit options (connection of package treatment plant to WWTP with ENR, installation of spray irrigation for land application of treated wastewater, etc.) | | | | |
| 8. Refer to section V (Expert Panel) | | | | |
| 9. List of acceptable on-site credits with process for adding additional ones | | | | |
| 10. Approval process that streamlines additional/new BMPs for credit generation, including 1-9; extension of stormwater manual (by reference); provision for BMP practices as used in Bay Model (MDE accounting for stormwater document) | ✓ | ✓ | ✓ | ✓ |
| B. Credit Certification, Verification and Transparency | | | | |

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| 1. Establish independent audit controls (that are qualified, knowledgeable and truly independent); additional checks and balances to avoid conflict of interest | ✓ | ✓ | ✓ | ✓ |
| 2. Use existing MDA verification policies | ✓ | ✓ | ✓ | ✓ |
| 3. All trades to be in a publicly accessible, on-line database established by State (MDE and MDA) and used to calculate progress. | ✓ | ✓ | ✓ | ✓ |
| 4. MDE is ultimately responsible for verification, enforcement and transparency of permitting process and market trading program. MDA is responsible for certification verification of ag credits . MDE is responsible for certification verification of urban credits. | ✓ | ✓ | ✓ | ✓ |
| 5. MDA works with interested WG stakeholders as well as MDE to create lessons learned and best practices from MDA program to create urban C, V and T program | ✓ | ✓ | ✓ | ✓ |
| C. Regulation of Brokers and Aggregators | | | | |
| 1. None | | | | |
| 2. Third party review | ✓ | ✓ | ✓ | ✓ |
| 3. Qualifications and best practices (bonding, certified, percentage of reserve and more); do more research on what other state's do | ✓ | ✓ | ✓ | ✓ |
| D. Restrictions on Trading Geographies | | | | |
| 1. Interstate | ✓ | | | |
| 2. Statewide; 3 year review to assess trading scale impact on local water quality | ✓ | | | |
| 3. Interstate when available, but limited to trading within the basin | | | | ✓ |
| 4. 3 regions | | | | |
| 5. 5 major basins | | | | |
| 6. County-wide | | | | |
| 7. Limit trading to within the local jurisdiction, unless the development occurs on nutrient impaired local segment, then offsets must come within this smaller watershed | | | | |
| 8. Limit trading to within the Maryland basin, unless the development occurs on a nutrient impaired local segment, then offsets must come within this smaller watershed (segment) | | ✓ | | |
| 9. Use a hierarchical trading geography - basin first expanding ultimately to State if no credits are available; offset is required at local level if there is a local impairment; 3 year review to assess trading scale impacts | | | | Agricultural community, Stephen H., *South River Federation, CBC, Sierra Club, 1000 Friends |
| 10. Within impaired watershed | | | | |
| 11. Limit trading to statewide, unless the development occurs on a nutrient impaired local segment, then must be offset at local level for that nutrient; county has option to limit trading to smaller scale if they wish to do so; review to assess trading scale; *IF 3 year policy review is in place | | | ✓ | MACo, MML, Developers, *CBF, |
| E. Credit Stacking | | | | |
| 1. Allow/encourage the “stacking” of additional (e.g., forest conservation, wetlands mitigation, carbon sequestration credits, etc.) for BMPs | | | | Horizontal-yes, vertical - not yet |
| 2. Need more information | ✓ | ✓ | ✓ | |
| F. Cross-sector Trading for TMDL Compliance | | | | |
| 1. Allow any sector (primarily urban sector/local jurisdictions) to trade with another sector (primarily agricultural sector) to more cost effectively meet their TMDL load allocation within trading jurisdictions | ✓ | | | |
| 2. Allow any sector (primarily urban sector/local jurisdictions) to trade in time with another sector (primarily agricultural sector) to provide more time for planning and funding | | | | |

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| 3. Allow any sector (primarily urban sector/local jurisdictions) to trade with another sector (primarily agricultural sector) to more cost effectively meet their TMDL load allocation within the county | | ✓ | | |
| 4. Once an individual's TMDL requirements are met, allow any sector (primarily urban sector/local jurisdictions) to trade (buy credits) with another sector (primarily agricultural sector) to more cost effectively meet their TMDL load allocation within trading jurisdictions with county option | | | ✓ | didn't have enough discussion; needed so WG doesn't endorse or prohibit issue moving forward |
| XI. Ratios to increase margin of safety and accelerate Bay restoration – Dependent | | | | |
| 1. Require that the load be offset at a 1.1:1 ratio, with a 10% retirement ratio. | ✓ | if permanency | ✓ | |
| 2. Require a retirement ratio of 10% to 15% for all trades | | | | |
| 3. Require that the load be offset at a higher than 1.1 ratio to provide for a margin of safety (1.5: 1, or 2:1) | | | | |
| 4. Require a higher ratio (3:1, or 4:1) if the Bay TMDL is not achieved by 2025 | | | | |
| 5. Allow for innovation in the type of BMPs/ practices eligible to participate | | | | |
| 6. Require a higher ratio for non-approved Bay Program BMPs (oysters, etc.) | ✓ | ✓ | ✓ | |
| 7. Require that the load be offset at a 1:1 ratio, with a 10% retirement ratio | | | | YES |