DRAFT - ISSUE PAPER

Bay Restoration Fund Nutrient Credit Purchase Policies and Procedures

Issue Statement

An amendment to the Bay Restoration Fund (BRF) statute proposes to expand the uses of funds generated from wastewater sewer user fees to allow the State to purchase cost-effective nutrient credits for the purpose of accelerating nutrient reductions to the Chesapeake Bay (Environment Article § 9-1605.2.).

Several policies and procedures are proposed in this paper. First is a way to purchase credits with BRF revenue. Second are the proposed types of pollution control practices that may be used to generate credits. Third is a policy on where credits may be generated relative to where they are credited. Fourth a policy on how the credits purchased with BRF revenue are distributed among pollution source sectors, local jurisdictions and geographically.

A full listing of issues raised by stakeholders during the discussion of the BRF legislative amendment proposed in 2016 (HB 325), and potential resolutions, is provided in Appendix A. Changes made to the October 17, 2016 version of this Issue Paper, and rationales, are provided in Appendix B.

Purpose

This issue paper is an initial draft of a document that describes policies and procedure for implementing the proposed legislative amendment to use BRF funds for the purchase of nutrient reduction credits. It is intended to identify policy issues and options in support of a comprehensive stakeholder dialogue on the subject. The eventual policy and procedures document will be adopted as a section of Maryland's Trading Manual.

Background and Discussion

Maryland's Phase I and II WIPs established midpoint nutrient reduction responsibilities among all major controllable sources and also 2025 pollution caps, but recognizes the path to 2025 will be further refined in the Phase III WIP. In 2016, the Governor's Bay Cabinet outlined a path forward to begin to close the 2025 funding gap and communicated that more cost effective solutions would be needed if Maryland is to achieve its 2025 goals. More specifically, the Cabinet stated that restoration success is within reach and a more efficient, market-based approach to financing will reduce costs and accelerate implementation leading to a restored Bay. One of the recommendations included focusing on pollution reduction targets and transitioning to a pollution reduction credit based financing and accounting system that would foster cost efficiency.

One way to accomplish this is to use the BRF framework. It is an existing, efficient way to pool revenue from the developed land sector and fund cost-effective nutrient reductions. The BRF is composed of two funds, one for septic system revenue and one for sewer system revenue. The septic

system revenue totals about $28 million/year and is used to 1) pay for septic system BAT upgrades (60% or $17 million/year) and connections to BNR/ENR facility and, 2) pay for agricultural cover-crops (40% or $11 million/year). The cover crop reductions from this revenue stream are credited towards the Bay goals for the agricultural sector. The BAT upgrades are not cost-effective, whereas the septic connections and cover crops can be more cost effective under particular circumstances.

The wastewater sewer revenue totals about $110 million/year and is used for two broad purposes: 1) to pay off past loans in the form of bonds that were used to upgrade 67 of Maryland's major wastewater treatment plants (45% or $50 million/year), and 2) to fund the upgrade of minor wastewater plants and other authorized activities with water quality and health benefits (55% or $60 million/year). Starting FY18 BRF funding can also be provided for Stormwater management BMPs.

The proposed amendment would use funds from the wastewater sewer user fees, which become available in FY18 when funding for the upgrade of all major wastewater treatment plants (WWTPs) will all be in place. The revenue stream will be available for achieving the most cost-effective nutrient reductions possible. Using the available sewer funds avoids disrupting the highly cost-effective purchase of cover crops that rely, in part, on septic system user fees.

The State has no way to compel non-permitted sectors to make reductions other than to pay for it. Reductions from septic systems and non-MS4 stormwater amount to about 1.6 million pounds or 14% of the total nitrogen reduction needed between 2010 to 2025 (about 1.2 million for septics and 0.4 million for non-MS4 stormwater). If the reduction responsibility is not borne by these sectors, it would need to be absorbed by other sectors.

Proposed Policy and Procedure Framework

How are Credits to be Purchased?

The manner in which the credits are purchased should consider administrative efficiency, maximizing benefits to the Bay (cost-effective), considering local benefits and co-benefits, avoiding any appearance of conflict of interest and other operational issues.

MDE will initially (FY 2018/19) start the BRF nutrient purchase as a pilot program. An open auction by MDE is proposed for this purpose. Under this approach, MDE will seek proposals from any entity that offers a fixed selling price/lb per year delivered to tidal waters for nitrogen for at least 5 years and up to 15 years. Proposals will be selected on the basis of the lowest cost per pound delivered to tidal waters. Other considerations could be included in the selection criteria, such as defined co-benefits like other pollutant reductions.

The 5 to 15 year contract establishes a framework for investors to front the funds to build BMPs and seek a guaranteed annual return that hopefully generates a profit. The BRF's annual payment process, contingent on an annual verification, protects the financial interests of the State and BRF ratepayers.

In each case above, the credits will be verified by the seller each fiscal year, prior to making payment. Only proposals with a minimum nitrogen reduction rate of 250 lbs/yr (250 credits). The proposal does not include the purchase of phosphorus or sediment credits at this time, because the credits will be directed solely to nitrogen reductions attributed to the septic system sector. Phosphorus and sediment credit purchases may be considered in future years.

Credits purchased through the Maryland Nutrient Trading Tool (MNTT) are only buying the the pollutant reduction generated by the conservation practice and not a particular best management practice (BMP) itself. This means that all of the BMPs involved in computing the credits must be properly functioning in order for the credits to be valid. The BRF purchase price can be based on the highest financial benefit to the seller including the cost of verifying all of the conservation practices that underlie the credits are properly implemented.

In the event there are more credits available with the same prices when the annual funding cap on BRF purchases is reached, other selection criteria will be considered. All things continuing to be equal, a lottery system will be used to break the tie.

What Credits are Eligible for Purchase?

The initial proposal is intended to establish an initiative that is sufficiently simple, yet broad and flexible enough to be successful in the short term. Over time, refinements can be made that are widely accepted as being beneficial. The initiative can also be ended if better ways to meet Maryland's Bay restoration goals are identified.

At this stage, only nitrogen credits that are certified and registered in the MNTT will be eligible for purchase by the BRF. This credit generating and trading platform has undergone technical review, which ensures the credits are technically defensible. It is also governed by State regulation that helps ensure verification of credits, transparency and accountability.

Credits generated by practices that must be repeated each year may be purchased using the BRF (annual practices). The credits will be verified each fiscal year by the seller, prior to the State making payment. Cover crops will not be eligible for generating credits for purchase by the BRF, but will count toward meeting the baseline to generate credits.

The proposed policy is for credits to have a duration of between 5 years to 15 years. This means that the contract for generating credits must be for that duration. The underlying practice(s) that generate the credit may have a shorter life-span, e.g., one-year, or seasonal, but in such cases must be repeated for at least five years according to the contractual obligation.

Although innovative practices are desired in the long run, credit purchases by the BRF will be limited to practices that are credited for annual progress evaluations according to Chesapeake Bay Program partnership procedures.

The BRF will not be used to purchase credits generated by wastewater treatment plants.

Where to Purchase Credits Relative to Where Credits are Applied?

To maximize cost benefits, credits should be purchased from locations that are most cost-effective in terms of pounds-delivered to the Bay per dollar expended. This implies that the location of credit generation need not be within the jurisdiction that receives the credit and represents a statewide Chesapeake Bay drainage trading geography. In addition to minimizing cost, the approach also simplifies the administration of this initiative. Specific credits will not be assigned to specific

jurisdictions; rather, jurisdictions will share in the reductions associated with an aggregate pool of credits knowing that the mix of pollution control practices associated with the credits can change over time.

Because this process involves reducing pollution, it does not pose local water quality concerns associated with new or increased pollution sources. Ultimately, the State is responsible for achieving nutrient reductions that are geographically distributed in a way that ensure attainment of water quality acceptable to the U.S. Environmental Protection Agency (EPA). Given the modest pace of implementation associated with this proposal, any observed concerns can be evaluated and adjusted through policy changes if needed in the future.

How to distribute the credits?

The proposal is to distribute the credits in proportion to the septic system funds paid into the BRF by local jurisdictions annually[1]. The credits will be applied solely to reduce nitrogen on behalf of the septic system sector. This preferential order recognizes the need to fund septic system and non-MS4 stormwater sectors for which there are no regulatory instruments to compel reductions[2]. This preferential order and the amount of revenues contributed by each jurisdiction will inform the relative amount of nitrogen and phosphorus credits purchased each year.

The preferential order of credit purchases promotes the assurance of implementation of the Bay TMDL load allocations[3] (meeting waste load allocations is assured through permits). This is consistent with the Environmental Finance Center policy recommendation that identifies two options for advancing implementation, "..the State can either regulate the reductions or pay for the reductions."[4] By design, the proposed statute amendment includes an annual funding cap on credit purchases to ensure BRF monies remain available for addressing MS4-permitted stormwater and other needs.

Periodic Policy Evaluation, Reporting and Sunsetting

The BRF credit purchase policies and procedures, to be adopted in the Trading Manual, will be reviewed after the initial year of operation and every three years thereafter. Reporting on the credits purchased, amount paid, the distribution of credits and the location of credits generated will be provided annually. The adoption of a sunset clause is a matter for the legislative process, which is outside the scope of this policy.

Summary

[1] Given that the State has historically shifted funds among jurisdictions, e.g., using funds from minor WWTP sewer service areas to fund major WWTP upgrades, this policy could result in some jurisdictions receiving more direct beneficial use of their BRF revenue than they have in the past.

[2] Because septic systems only discharge nitrogen, and nitrogen and phosphorus credits are sold separately, the State proposes preferentially purchasing nitrogen credits.

[3] Load allocations are non-permitted part of a Total Maximum Daily Load (TMDL). Because it is difficult to compel reductions associated with LAs, TMDLs require an assurance of implementation element, which is a key function of the Bay Watershed Implementation Plans.

[4] Maryland's Chesapeake Bay Restoration Financing Strategy Final Report, Environmental Finance Center, University of Maryland. February 2015. P.6 https://efc.umd.edu/assets/financing_strategy_final_6_5.pdf

The Governor's Bay Cabinet outlined a path for Maryland to achieve its share of the Chesapeake Bay nutrient reduction goal that depends on transitioning to a credit based financing and accounting system to foster cost efficiency. The proposed amendment to the BRF statute, which would authorize using a portion of the sewer fee to purchase low-cost nutrient reduction credits, is a modest step in this direction.

MDE would purchase credits in a manner that targets cost-efficiency, promotes investment by the private sector and safeguards State and ratepayer financial interests. The types of activities that could generate credits would be limited to those activities that can be reflected in the Maryland Nutrient Trading Tool (MNTT). This credit generating and trading platform is technically sound, and helps ensure transparency, verification, accountability by State agencies and the public.

To maximize cost benefits, credits should be purchased from locations that are most cost-effective and distributed geographically in proportion to the septic system funds paid into the BRF by local jurisdictions annually. This aspect of the initiative does not create local water quality hot spots, because it is a pollution reduction process rather than a process for offsetting new loads. The credits are proposed to be applied to meeting the reduction goals for septic systems.

The proposed BRF credit purchase initiative proposes directing a modest level of funding to begin exercising parts of Maryland's water quality trading infrastructure. This initiative could provide valuable lessons in support of transitioning to a pollution reduction credit based financing and accounting system that helps restore the Chesapeake Bay and local water quality.

Appendix A

This appendix identifies issues raised by stakeholders during the discussion of the BRF legislative amendment proposed in 2016 (HB 325) and offers responses with cross-references to the Issue Paper on Bay Restoration Fund Nutrient Credit Purchase Policies and Procedures.

Issue 1: The original proposal had no limits on when & how many credits ($) may be purchased.

Response: Of the approximately $60 million dollars per year available for use, the legislation proposes a $10 million annual cap for purchasing nutrient credits. The proposal is for the State to purchase credits one time annually. The proposed amendment does not specify the duration of this expanded use of the BRF; however, a sunset clause could be added.

Issue 2: How will the credits apportioned?

Response: The proposal is to apportion the credits toward meeting the nutrient reduction obligations of non-permitted sources in proportion to payments received from local jurisdictions (non-MS4 stormwater and septic systems). After obligations of non-permitted sources are met the credits could be applied to meeting reduction obligations of regulated sectors (MS4s).

The State can only compel reductions through permit requirements or by paying non-permitted entities[5]. The State's Bay TMDL allocations call for about 1.6 million pounds of nitrogen reduction from non-permitted sectors (about 14% of the total reduction)[6]. Consequently, the State has an interest in apportioning the BRF-funded credits to meet the reduction requirements of non-permitted sectors .

Issue 3: Safeguard the uses of dedicated funds.

Response: The legislative amendment proposes a $10 million annual cap on using the BRF to purchase credits out of a total of about $60 million/year. In addition, the legislation could include a sunset provision, ideally after 2025 deadline for achieving implementation necessary to meet the Bay reduction target.

Issue 4: Potential impacts on Ag sector ability to meet its Bay goals.

Response: Participation of farms in generating credits for sale would be on a voluntary basis. Only farms that have achieved their share of reductions toward the Bay restoration goals would be eligible to generate credits for sale. The legislative amendment proposes a $10 million annual cap on funds. This compares with over $40 million in funding for the FY15 MACS program[7]. MDA is sensitive to

[5] Maryland's Chesapeake Bay Restoration Financing Strategy Final Report, Environmental Finance Center, University of Maryland. February 2015. .

[6] Maryland's Bay TMDL allocations imply nitrogen reductions of about 0.42 million lbs/yr from non-MS4 stormwater and 1.15 million lbs/yr from septic systems, which is about 13.5% of the total nitrogen reduction.

[7] Maryland Agricultural Water Quality Cost-Share Program, Annual Report 2015. Maryland Department of Agriculture.

avoiding the disruption of existing funding programs, such as the cover crop program, which will be excluded from the eligible practices funded via BRF credit purchases.

Issue 5: State involvement in market place pricing

Response: For several years Maryland has had in place the administrative and information technology infrastructure for trading market activity in the agricultural sector; however, there is no reliable demand to generate credits. It is uncertain whether the MS4 stormwater permit will materialize to serve as a driver of demand. A BRF credit purchase program would be a public private partnership that creates reliable demand. This could drive the generation and exchange of credits that would mimic many aspects of a more ideal market. In addition to exercising key market mechanics, such as farm credit calculations, credit certification and verification, and operation of the credit registry system, it would begin to generate information about pricing of credits. Although it would be an imperfect market, a great deal of beneficial experience with the trading infrastructure could be gained and it would drive the generation of relatively low cost nutrient reductions that otherwise would not occur.

Issue 6: Premature given limited understanding of trading program.

Response: Many of the mechanisms for purchasing credits already exist as apply to the agricultural sector. Stormwater elements of the Trading Manual are not relevant to the BRF credit purchases.

Issue 7: Potential expectation for restoration to occur in urban locale.

Response: The expressed purpose of the BRF credit purchase concept is to maximize to cost-effectiveness of limited revenue toward achieving the Bay nutrient reduction goals by 2025. A tradeoff in meeting the optimal cost-effectiveness objective is that the reductions will be located where they have the greatest effect on Bay restoration. Although this may shift the location of the reductions away from urban areas, the credit can be applied to those urban areas that generated the revenue, which made the accelerated reductions possible.

Issue 8: Potential impact on funding stormwater permit obligations

Response: This issue paper proposes to direct the credits purchased by the BRF, under a funding cap, toward non-permitted activities for which the State has no means to comple reductions other than to pay for them. The annual BRF revenue stream for pollution reductions is estimated to be about $60 million/year beginning in FY18. If the BRF credit purchases are capped at $10 million/year, this would leave $50 million/year available for which permitted stormwater would be an eligible use. (See: “How to distribute the credits?”). In principle, an additional tranche of funding, above the $10 million/year cap, e.g., to $20 million/year, which could be used to purchase credits on behalf of the the federally permitted stormwater sector. There are many similar alternatives that could be explored.

Issue 9: Concern small WWTPs will not receive upgrade funding.

Response: By statute, the upgrade of minor WWTPs is the first priority for BRF funding following the funding of major WWTPs upgrades, which will be completed in FY18. Only after the needs of minor WWTPs are met is the Department enabled to use the BRF funds for other authorized purposes to meet water quality and health benefits.

Appendix B

Rationales and Changes to the October 17, 2016 version of the Issue Paper

1. **How to Distribute the Credits?** The original proposal credited reductions to local jurisdictions in proportion to the combined sewer and septic fees generated, and distributed the reductions in preferential order of septics, non-MS4 stormwater and MS4 stormwater. The revised proposal is to distribute the credits to local jurisdictions in proportion to what they generate from septic system user fees and credit the reductions solely to septic system nitrogen reduction obligations.

   Rationales: The pros of solely crediting septic reductions outweigh the cons.

   - It directly compensates the septic sector from which 40% of the septic user fees are directed to cover crops that benefit the agricultural sector's Bay nitrogen reduction progress.
   - It provides a cost-effective way to make progress on septic system reduction obligations, which the US EPA has consistently raised in annual evaluations of Maryland's 2-Year Milestones.
   - It avoids complications of having BRF reduction credits directed to permitted activities (MS4s), e.g., verification, compliance, etc.
   - It addresses the view of some stakeholders that MS4 programs should use their own resources to purchase reduction credits rather than using BRF funds. This aligns with recommendations of the Environmental Finance Center's 2015 Chesapeake Bay Restoration Financing Strategy Report that permitted entities should fund their obligations.
   - It requires that only nitrogen credits be purchased via the BRF, which simplifies purchase of both nitrogen and phosphorus credits. The purchase of phosphorus credit could be considered in the future.
   - Although directing sewer fee revenue from urbanized jurisdictions to more rural jurisdictions with septic systems can be viewed as a "con", it can also be viewed as balancing past trends in which rural sewer fees were directed to more urbanized areas to fund major wastewater plant upgrades.

2. **How are Credits Purchased?** The original proposal offered three options: Competitive bids, a State-determined spark price to promote participation and a State-determined floor price making the State the buyer of last resort.

   Rationale: The Advisory Committee members generally felt a competitive bid process was most sensible. This is sometimes referred to as a reverse auction.

3. **Verification:** The original policy implied that the responsibility and cost of independent verification of control practices is borne by the party selling the credit to the BRF program. The revised version of the Issue Paper makes it explicit that the seller is responsible for annual verification prior to receiving payment from the State.

   Rationale: This is the reverse of Maryland's Trading Manual policy. The Trading Manual envisions an aggregator or other credit purchaser is responsible for the verification. This is viewed as avoiding any potential conflict of interest associated with the credit generator hiring an independent verifier. However, the alternate view is that having the credit generator be responsible for the verification process is more practicable operationally; in effect, they are responsible for ensuring the quality of their product. The credit seller can factor the cost of annual

verification into their bid price. If the cost proves to be too high, the State can consider reducing the frequency of verification based on procedures documented in Maryland's Best Management Practice Verification Protocols (MDE, January 2016). The State could also consider subsidizing the cost of verification to the seller by using BRF or other State resources to pay for verification on behalf of the sellers.

4. **Annual Funding Cap:** Change the funding cap from $10M/year to equal the amount directed from the septic fund to cover crops each year (approximately $11M/year).

   Rationales: This cap aligns with the revised proposal to direct the credits solely towards meeting the septic system sector nitrogen reduction obligations. Although this is a modest change, it provides better grounding for the funding cap level. The septic funding level is stable because it is linked to the number of septic systems, which slowly grows over time.

5. **Pollutants Purchased and Minimum Nitrogen Reduction per Bid Package:** The original proposal called for a minimum of 1,000 nitrogen credits per bid proposed to the BRF. The revised proposal lowers the threshold to 250 credits.

   The phosphorus minimum bid size becomes moot if credits are directed solely to septic system nitrogen reduction obligations; however, it was suggested that if phosphorus was purchased, then the minimum number of credits should be lowered as well from 100 lbs/yr to something on the order of 35 lbs/yr.

   Rationale: Lowering the minimum number of credits per bid removes a potential barrier to prospective credit sellers participating. A threshold of 1,000 nitrogen credits would almost certainly necessitate the involvement of aggregator service providers, because few if any individual farms can generate 1,000 credits. It is more common for a farm to be able to generate 250 nitrogen credits. Although the Advisory Committee members generally endorse the involvement of aggregators, they also felt that lowering this threshold would help promote participation by individual farmers. Many feel that no minimum is necessary.

6. **Trading Geography:** The section entitled, "Where to Purchase Credits Relative to Where Credits are Applied?" has been edited state explicitly that the trading geography is the statewide area draining to the Chesapeake Bay.

   Rationale: This was implicit in the original proposal and is simply being made explicit. The justifications include, 1) as a practical matter, specific credits will not be assigned to specific jurisdictions; rather, jurisdictions will share in the reductions associated with an aggregate pool of credits knowing that the mix of pollution control practices associated with the credits can change over time, 2) credits are likely to be generated widely across Maryland, which will have the general effect of matching the widely dispersed reduction need with credit-generated reductions, 3) other rationales are expressed in the body of the Issue Paper.

7. **Review the Policies and Procedures in 3-Years:** The policy is being enhanced to include a commitment to initially review the implementation procedures after the first year, then review the procedures every 3-years thereafter.

8. **Annual Reporting:** The Issue Paper has been revised to include annual reporting on the credits purchased, amount paid, the distribution of credits and the location of credits generated will be provided annually.

9. **Sunset Provision:** MDE will consider revising the BRF amendment language to include a sunset provision for this expanded use. Some alternatives raised by the Trading Advisory committee include very short period (3-years), at 2025 sunset, which aligns with the deadline for achiving the necessary implementation toward Maryland's share of the Bay nutrient reduction target, to 2030, which aligns with the sunset provision that doubled the BRF fee in 2012. If at any point the State legislature feels this credit purchase program is not functioning as intended, it may remove the use from the law. The sunset provision implies no new purchases of credits; however, prior contractual obligations will require payments for up to 15-years beyond the sunset date.

10. **Documentation of the BRF Credit Purchase Implementation Policy:** The Trading Advisory Committee broadly recommended that the implementation policies reflected in this Issue Paper eventually be documented as a section of Maryland's Trading Manual.

Comments Considered but Not Acted Upon:

1. **5-year Versus 5-15 Year Contracts:** Department of Agriculture staff suggested the stakeholder group consider limiting contracts to 5-years. The general leaning of the group seemed to be toward retaining the 5-15 year contract options as originally proposed, which is viewed as providing more flexibility and accommodating restoration activities that have a longer pay-back period.

Comments for Further Consideration:

1. **Bid Evaluation and Selection Criteria:** Advisory Committee members expressed an interest in further discussion regarding the details of project selection criteria. As a specific example, it was suggested that, although sediment credits would not be purchased, projects with greater sediment reduction benefits could rank higher if everything else was equal. Other co-benefits and practical considerations could be defined and considered as part of a set of project selection criteria.