Maryland Water Quality Trading Advisory Committee
Final Meeting Summary
Chesapeake Bay Foundation, Annapolis, MD
November 17, 2016

Committee Members in Attendance:

Tom Ballentine	*NAIOP Maryland Commercial Real Estate Development Association*
Bevin Buchheister	*Chesapeake Bay Commission*
Lynn Buhl	*Maryland Department of the Environment*
Lisa Feldt	*Montgomery County Department of Environmental Protection (Alternate* – Patty Bubar*)*
Brent Fewell	*Earth & Water Group*
Patricia Gleason	*US Environmental Protection Agency, Region 3*
Les Knapp	*Maryland Association of Counties (Alternate* – Natasha Mehu*)*
Kate Maloney	*Maryland State Builders Association*
Erik Michelsen	*Anne Arundel County Department of Public Works*
Doug Myers	*Chesapeake Bay Foundation*
Susan Payne	*Maryland Department of Agriculture*
Chris Pomeroy	*AquaLaw, Maryland Association of Municipal Wastewater Agencies, Maryland Municipal Stormwater Association*
Mindy Selman	*USDA Office of Environmental Markets*
Phillip Stafford	*Maryland Department of Natural Resources*
Rob Shreeve	*Maryland State Highway Administration*
Lindsay Thompson	*Maryland Association of Soil Conservation Districts, Maryland Grain Producers*
Sara Walker	*World Resources Institute*

Facilitator:

Kathy Stecker *(Alternate* – Lynn Buhl*)*

Other Attendees:

Lynn Angotti	*Maryland Department of the Environment - Attorney General's Office*
Vimal Amin	*Maryland Department of the Environment*
Andrea Baker	*Maryland Department of the Environment - Attorney General's Office*
Wayne Black	*Perdue AgroBusiness Inc.*
Brian Clevenger	*Maryland Department of the Environment*
Michelle Crawford	*Maryland Department of the Environment*

Brenda Dinne	*Carroll County Department of Land & Resource Management*
Jacob Dorman	*Contech Environmental Solutions*
Aris Evia	*Maryland Department of the Environment - Attorney General's Office*
Jim George	*Maryland Department of the Environment*
Ridge Hall	*Chesapeake Legal Alliance*
James Hearn	*Washington Suburban Sanitary Commission*
Christine Holmburg	*Maryland Environmental Service*
Dan Johannes	*Chesapeake Bay Foundation*
Steve Johnson	*Ballard Spahr LLP*
Marya Levelev	*Maryland Department of the Environment*
Steve Levitsky	*Perdue AgroBusiness Inc.*
Allysha Lorber	*Johnson Mirmiran & Thompson, Inc.*
Chip MacLeod	*Clean Chesapeake Coalition*
Julie Pippel	*Washington County Division of Environmental Management*
Dusty Rood	*Rodgers Consulting*
Matt Russell	*Rodgers Consulting*
Hans Schmidt	*Maryland Department of Agriculture*
Martin Stewart	*Perdue AgroBusiness Inc.*
Bob Summers	*KCI*
Maggie Witherup	*Gordon Feinblatt LLC*

Action Items:

- Create and distribute a timeline for the development of the program
- Expectations regarding the timeline
- Distribute Aligning for Growth (AfG) presentation

Meeting Minutes:

1. WELCOME & INTRODUCTIONS

Since Ms. Stecker was absent because of a family emergency, Ms. Buhl welcomed the meeting attendees, and everyone introduced themselves.

2. REVIEW OF THE MAY 19 MEETING MINUTES

Ms. Buhl asked the Committee members for corrections or comments on the October 17 meeting minutes. Ms. Payne stated that there was a correction to be made on page 14 which indicates the "State has a goal to have a little over a million acres in that program, which is roughly equal to one-third of the agricultural lands." Based on the 2015 agricultural census, there are 2 million acres in Maryland and the one-third should be changed to one-half. Ms. Thompson also noted that her name was spelled incorrectly. The minutes were approved as corrected.

3. REVIEW OF MEETING GOALS

Ms. Levelev gave a brief update on the comments received on the Trading Manual. Comments were received from Aqua Law, Chesapeake Bay Commission, Chesapeake Bay Foundation and others, Gordon Feinblatt LLC, Maryland Builders Industrial Association, Montgomery County, RES, and World Resources Institute. The Maryland Department of the Environment (MDE) met with the US Environmental Protection Agency (EPA) on November 10 to discuss the path forward (i.e. Phase II, MS4 permits, Montgomery County consent order, etc.). EPA will be sending MDE written comments by the end of the November; MDE will follow-up with a call to discuss those comments. Once all of the comments have been received the process of updating and finalizing the Trading Manual will begin.

There are a number of comments and concerns regarding the Trading Manual:

- Consistency with EPA's Technical Memoranda's
- Trading geography
- Requiring a 2:1 uncertainty ratio for all trades between Nonpoint Sources (NPS) and Point Sources (PS)
- Section 2 (PS Trading) comments on the definition and meaning of design capacity, specifically as it relates to the hydraulic capacity of the wastewater treatment plant (WWTP).
- Retirement ratio (The manual will be changed to suspend the retirement ratio with the possibility of reinstating it at a later date)
- Duration of credits
- Editorial comments regarding flow management examples and flow management language
- Use of modeling in considering the potential impact from the proposed discharge as being too specific as to the methods for ensuring that local water quality is protected.
- Permanent versus temporary trades and implementation within permits
- Baseline for performance credits (The baseline for performance credits for PS were established in permits as part of the PS strategy in 2004.)
- Additionality
- Bubble permits
- Section 3 (MS4 Trading)
- Trading in Time, as it relates to MS4 jurisdictions, should be used as a short term or interim action until Best Management Practices (BMP's) to address impervious surfaces which were developed without stormwater management are implemented and verified.
- Manual should be clarified that MS4s will only be allowed to trade after major Permit modification to address trading.
- EPA has been reviewing Phase II MS4 permits which include language on trading. Tentative determination regarding Phase II permits is planned to be issued in December. MDE will follow up with MS4 trading regulations in the spring of 2017.

- Establishment of nutrient reduction targets in pounds rather than percentages
- Definition of the trading areas hierarchy with emphasis on addressing local water quality first
- Section 4 (generating agricultural credits) comments

Ms. Payne stated, regarding Section 4 and farm tracts, that the regulations indicate that the farm is the parcel of land which has an agricultural use assessment completed by the Department of Assessments and Taxation. In terms of credit generation, Ms. Payne is not aware of any grandfathering activity being employed in the past. In terms of establishing timelines, a timeline, whether agriculture is involved or not, cannot be guaranteed because on-site assessments, verifications, or permits sometimes require ongoing negotiations and adjustments. Mr. Fewell suggested further clarification regarding the timeline would be appropriate.

Ms. Levelev reiterated that the retirement ratio is being suspended until reevaluation of the trading policy occurs. Mr. Myers asked if the Maryland Nutrient Trading Tool (MNTT) already incorporated the retirement ration in its calculations. Ms. Payne replied that it does not and indicated that the retirement ratio would be applied at the time of sale. Ms. Thompson stated that at the last meeting, it was mentioned that the MNTT uses the efficiencies from the Chesapeake Bay Program (CBP) model, which is a conservative estimate based on the difference in geographies. Ms. Buhl stated that other than suspending the retirement ratio there are no major changes being made but there are many smaller fine-tuning adjustments. MDE is still trying to resolve any issues with EPA Region 3 which is concerned about consistency with other States, the EPA Technical Memoranda, and EPA policies. It is expected that other players will enter the trading arena, which will cause further changes and additional language (i.e. aquaculture). MDE was contacted by a BAT septic system vendor who inquired about generating credits by installing a system in a location in which it is not required; MDE was very receptive to this idea.

Mr. Myers asked if the information which has currently been collected would included into a final version of the Trading Manual and whether regulations would be issued concurrent with Phase II permit issuance. Ms. Buhl replied, "No," and noted that the regulations will not be ready for a few months; also some information may be moved between the regulations and the Trading manual. Mr. Myers asked if additional changes would be made in the future are more information comes along to which Ms. Buhl replied, "Yes." Mr. Myers requested a timeline regarding the development of the program. Ms. Buhl stated that it is envisioned that the regulations will be in place and that the Trading Manual will be in working condition by summer 2017. Ms. Levelev asked the Committee for input regarding the idea of using voluntary septic upgrades to create credits for sale and determining a baseline. Ms. Buchheister stated that septics can be used to generate credits for the current load reductions and the BAT could be used for offsets. When an offset policy is developed, this could be the cheapest way to reach those goals.

Ms. Buchheister stated that it was a surprise to hear that the retirement ratio is being removed since it has been a part of the program for years. Mr. Myers stated that the Bay Restoration Fund (BRF) legislation is less attractive with the removal of the retirement ratio. Ms. Thompson clarified that her comments from the previous meeting were not critical of the retirement credits but the application of the credits. Ms. Levelev stated that the decision to suspend the retirement ratios was made due to comments from the agricultural sector stating that farmers would not get the full cost of the credit. In addition, there were concerns that the use of the retirement ratios would reduce available nutrient capacity at WWTPs needed for future planned growth. Mr. Hall commented that the price would be set by the market and stated that the farmer may have to raise the price to accommodate for the retirement, which is a function of the market. Ms. Payne stated that since the price is unknown, no one is sure how the retirement ratio would affect the program. The purpose of the retirement ratio was to retire the credits for the permanent good of the Chesapeake Bay.

Mr. Ballentine stated his belief that the State is on shaky legal grounds when it retires a portion of a trade. The pricing is currently unknown, but it is a mistake to underestimate the bargaining power and negotiating skills of the agricultural community when it comes to making land deals and negotiating agreements. Ms. Fewell asked for clarification regarding the concerns of the legal issues. Mr. Ballentine stated that a portion of the trade is being taken by the State for use towards the Bay goals. Mr. Fewell asked if it would be similar to a tax. Ms. Payne stated that there are many States which have used retirement ratios without any problems, but the program will move forward without it for the time being. Mr. Myers noted that the retirement ratio concept is common in other markets (i.e. carbon markets), which have a transaction fee or a credit retirement system. Ms. Buchheister stated that usually the most rigorous program is implemented and then things which are not necessary are removed; it is highly unlikely that the retirement ratio would be placed into the program if it is not started with it. Mr. Ballentine stated that initially there could be trouble with liquidity and the suspension of the retirement ratio would be removing a hindrance to the market. Ms. Payne stated that if Bay goals are not being met, then the retirement ratio could be reinstated.

4. BRF LEGISLATION – ISSUE PAPER

Dr. George discussed the BRF legislation and Issue Paper. Dr. George stated that a meeting was held on November 4th for a small group discussion on the BRF credit purchase program proposal. The BRF credit purchase program is a reasonable pilot level opportunity to provide some certainty in the demand for credits and will allow Maryland to gain some experience with trading. In 2015 Maryland introduced legislation to propose using the BRF (funded by fees for septic system owners and those who are on sewer systems) to purchase credits (HB 325). The initial hearing was not supported, mostly due to having almost no initial stakeholder involvement; MDE's intent of introducing the Bill was to start the conversation. MDE is using

the Water Quality Trading Advisory Committee (WQTAC) to help work through the details for how an amendment to the statute would be implemented and how the amendment itself should be structured.
Dr. George stated that there are two ways for implementation: creating a stand-alone document or adding another section to the Trading Manual. It was advised that MDE place a new section in to the Trading Manual regarding implementation of the BRF credit purchase program.

Regarding how credits could be purchased, the Issue Paper offers three options:

- Use an open auction where the lowest cost credits would be purchased first (lowest cost per pound reduced)
- Set a floor rate to serve as the "buyer of last resort"
- Set a "spark rate," which sets a higher price to kick start the market

Most agreed that the open auction would be the most effective in signaling prices. Ms. Payne suggested the use of a "reverse" auction to provide a realistic assessment of price expectations. Mr. Myers asked the members representing the agricultural sector if there was an incentive having the State set a floor price for the credits. Ms. Payne stated that agricultural credits may be certified pending implementation allowing the farmer to know the price before the practice is installed, which obviates the need for a floor rate. Ms. Maloney stated that it would be interesting to know the cost of BMP's. Ms. Payne replied that it is not just the cost of the BMP, but also the operation and maintenance over the contract duration, the rental value of the acreage, etc. which effects the overall cost of the credit. Mr. Fewell asked if the State were reserving its right to not purchase credits if they are too high, and Ms. Payne replied that the State could stipulate the right to reject any or all offers.

Dr. George stated that contracts were slated to be 5-15 years, but the Maryland Department of Agriculture (MDA) was leaning towards a 5-year term. Ms. Payne, from MDA, stated that purchases are made every year, and it would be simpler to have contracts issued for 5 years, rather than a choice of 5 – 15 years, which is more complicated to administer. Also, the average age of the farmers in Maryland is 57 years, and farmers may think twice about signing a longer term contract. Longer contract terms can be added in the future. Ms. Thompson asked if a 5-year contract was placed on a perpetual credit generator, would the practice be able to be continued and used for another 5-year contract once he first one was over. Ms. Payne replied, "Yes." Ms. Thompson cautioned that prices may be inflated if they are limited to the shorter contract period for practices which would have a better return over a longer period of time, especially since it is not guaranteed that another 5-year contract can be obtained. Mr. Fewell stated that there is greater flexibility when contracts are not relegated to 5 years. Mr. Michelsen stated that this might de-incentivize long-term practices. Ms. Payne noted that there was a concern expressed previously about farmers trading away their credits for a longer period and how that could affect them in the future if the future Phase III Watershed Implementation Plan

(WIP) requires more reductions from the agricultural sector. Mr. Myers asked if the credits were to be sold for 5 or 10 years, then they would be selling to MS4s. Dr. George stated that the BRF would purchase credits and give them back to the local governments which paid into the fund with preferential crediting going in order of septic systems, non-MS4s, and the MS4s. Ms. Buchheister asked why the contracts had to have a set contract term length, rather than what the seller is offering for the contract term length, making it flexible. Dr. George asked the Committee members for suggestions on how cost effectiveness could be evaluated between 5 and 10 year contracts. Mr. Fewell suggested determining annual costs.

Dr. George stated that the question of a "sunset" provision was raised by commenters. Dr. George suggested sunsetting the program could be handled in a number of ways, but basically the program would not buy any new credits while still paying for those contracts in place according to the contract term. There was not a strong demand for sunsetting the program, but it could be added later. There was a request for a commitment to revisit the rules and regulations three years into the program. Mr. Myers asked if the funding was $10 million per year, and Dr. George replied, "Yes." Mr. Myers suggested the program could investigate the funding being spent because others are paying in to the BFR for other reasons and expectations and $10 million every year for this project might have a blowback for other stakeholders. There are individuals expecting sewer or septic upgrades who have expressed these concerns. Mr. Pomeroy stated that there is a concern from local governments regarding the repurposing of funds which are currently assigned to public waste water and public stormwater. Dr. George stated that the $10 million is coming from about $60 million expected to be available from the sewer side of the BRF beginning in FY18. Estimating credit sales of $100 per pound, which has been noted as too low of a price, would generate at maximum a 100,000-pound reduction. Those reductions would be a small fraction of the total 10 million required reductions needed between 2009 and 2025. The $10 million a year would be designated by legislation and any funding level changes would have to go through the legislative process.

Ms. Payne stated, regarding the sunset provision, that the BRF legislation in its entirety sunsets in 2035. Dr. George stated that the rate of revenue changes in 2035. Ms. Payne suggested the reauthorization of the program at that time and a revisiting and reevaluation after three years. Ms. Buchheister reminded the Committee that the purpose of the proposal is to jumpstart the market. An offset policy will help create the demand for credits and when the MS4s have new permits that will also drive the demand for credits. A sunset of 5 years may be reasonable with the BRF proposal. Mr. Michelsen disagreed, and stated that $10 million is a minimum in regards to State funding, and that the State should be in the business of buying credits for the foreseeable future. Mr. Myers stated that it might be more effective to buy the agricultural practices rather than stimulating trading.

Mr. Fewell asked if the proposal was only spending money on nitrogen and phosphorous and Mr. George replied, "Yes". Mr. Fewell asked why, and Dr. George replied to keep it simple, the credits are calculated and sold separately. Mr. Fewell asked if a project for nitrogen and phosphorous also reduced sediment, would there be an opportunity to generate those credits. Ms. Payne stated that if there is a market for sediment, the farmer could sell those credits, only nitrogen and phosphorous could be sold to the State in this program. Mr. Shreeve stated that the phosphorous credit and the phosphorous itself are almost exclusively tied to the sediment. If someone is buying phosphorous and another person is selling sediment, then both parties have bought both the same credit twice. Dr. George stated that the credits are separate due to meeting baselines, which could be within limits for one nutrient but not the other. Ms. Payne stated that the precursor to the Committee determined that there would be independent marketplaces for all pollutants. Mr. Michelsen suggested adding sediment to the evaluation criteria to allow for future sediment trading. Also, all natural resource benefits associated with the implementation of those practices could be accrued towards the State which has the flexibility in terms of how those might be utilized. Ms. Payne stated that the credits are being bought, not the practice. The practice remains with the owner of the credits at the time of sale. The credits would be placed on the registry with a registration number which is what would be tracked, not the project.

Dr. George stated that another issue which was raised deals with who would pay for the annual verification of the credits. Ms. Payne stated that in the current draft Trading Manual the buyer verifies the credit each year to ensure continuing validity while the seller is responsible for operation and maintenance. In the case of the BRF credit purchase program, the State could pay for verification, potentially using the BRF fund. Verification costs should be factored into the price offered by the bidder. Verifiers are individuals who are certified through the Maryland Department of Agriculture (MDA) and can include soil conservation district staff. Ms. Payne stated that anyone who has the credentials is eligible to become a certified verifier.

Dr. George stated that another aspect of the conversation included the issue of how costly annual verification could become, and it was suggested that there could be less frequent verification. Mr. Myers asked if there will be a statewide BMP verification in 2018. Ms. Buchheister replied nothing will be credited until it is verified by the designated protocols. Dr. George stated that trading has a more rigorous verification. Mr. Myers stated that the practices involved in the trading scheme need to be verified separately. Dr. George replied that currently the verification protocols are for cost-share programs with vast amounts of BMP's. Ms. Thompson stated that in the agricultural sector, there is 100% initial verification of new BMPs, 100% verification of annual BMPs, and Maryland's Quality Assurance Plan for agriculture includes 10% of all reported BMPs on an annual basis. For trading it is a different process, but annual practices would have to be verified every year. A possibility is that the State could work cooperatively for the agricultural BMPs to fall under the team assembled to perform verification. Ms. Payne reminded the Committee that current regulations require agricultural BMPs which perform a

credit generating activity would have to be verified annually. It was noted that, if BRF-purchased credits are used to fund MS4 reductions, then verification becomes more complicated due to permit compliance issues.

Mr. Fewell expressed a concern regarding the State subsidizing the cost for implementation and verification through the BRF. There is also concern regarding distortion of the pricing of the market and how that would affect non-BRF trades and others who have to pay for the cost of verification. The price of verification should be reflected in the credit cost. Mr. Pomeroy stated that this is a direct purchase program. Mr. Pomeroy suggested segmenting the BRF proposals from the rest of the Trading Manual since there have been challenges with terminology. If the State is buying environmental credits, it is not the same type of scenario which would occur between two other unrelated parties in a transaction; the State is the purchaser for its own use, and it is not a trading context but whether or not the State is satisfied with its purchase. Dr. George gave an example of a grant program where due diligence has to be performed to verify receipt of what is being paid for.

Dr. George mentioned that an issue was raised regarding the minimum number of credits which could be purchased in one proposal (i.e. 1,000 pound nitrogen and 100 pound phosphorous minimum). Ms. Payne clarified that it would be difficult for an individual farm to produce that many pounds forcing the seller to use an aggregator. Both 1,000 pounds and 100 pounds is high for an individual farm; approximately 250 nitrogen and 25-30 phosphorous credits is more reasonable. Dr. George stated that these numbers were imposed by the administrative management burden, and asked if the Committee had an opinion on this topic. Ms. Thompson stated that if the purpose of the BRF is to jumpstart the market, then there will be a similar adoption curve as with any other practice; the early adopters may feel more comfortable on their own rather than going through an aggregator. The fewer limitations on the availability of the BRF will be more desirable. Mr. Michelsen suggested removing the minimum, and after a few years when the program is reevaluated, add a minimum if necessary at that time. Mr. Shreeve stated that the Committee is minimizing the role an aggregator may play. Ms. Thompson stated that there are farmers who have stated they would like to participate on their own and would not want to preclude them if they do not want to work with an aggregator.

Dr. George stated that there was brief discussion on details regarding the auction process (i.e. evaluation criteria, forms, committee review, etc.) and asked the Committee if the level of detail in the issue paper was sufficient and if anything were missing. Mr. Myers stressed that the auction process and the distribution priorities to the counties would need the most amount of details. Ms. Payne stated that an issue was raised regarding the use of credits generated from annual practices and whether or not annual practice would be able to be used for a 10 or 15-year contract due to the risk factors associated with longer use of annual practices. Generally, an aggregator will not structure a portfolio with annual practices over that length of timeframe. Ms.

Payne asked if there was intent to evaluate and accept only the practices which would generate longer-term credits as opposed to annual practices. Dr. George asked for an explanation regarding the risk involved. Ms. Payne stated that weather can be a factor with annual practices such as cover crops and they might not be able to produce the required credits in any given year. Dr. George replied that the seller would not get paid for that year if that were the case. Mr. Myers stated that an aggregator should have a pool of credits to be able to make up for lost credits.

Ms. Payne clarified that the Maryland Nutrient Tracking Tool (MNTT) is being used for determining credits since it is state-specific as opposed to the Chesapeake Bay Nutrient Trading tool (CBNTT) which is a platform for multiple states. The only practices entered in to the MNTT are those approved by the Chesapeake Bay Partnership. Ms. Buchheister asked what happens to the load after the term has expired. Dr. George stated that there would be a pool of credits covering the funding, but the amount of credits in the pool could change over time.

Dr. George stated that another topic is how the credits generated are apportioned. There are two pieces: one is proportionate to the funding from septics that the jurisdictions paid in (i.e. of the money paid into the BRF, a similar portion would be returned); second, there is a preferential order in which the credits would be applied:

1.) Septic systems
2.) Non-MS4
3.) MS4

To a large degree, most of the credits will be paying for non-permitted activities over which the state has little influence making reductions. Allowing MS4s to participate creates a system where credits are proportionately handed out based on the funding received and equitable distribution of the credits. A simplification has been proposed to use the program for reductions on behalf of the septic system sector; one counter point to this is that funds come from the sewer side of the BRF; for example, Baltimore City pays in to the sewer side of the BRF but has no septic systems. It was mentioned that the BRF legislative proposal could be set up to only draw money from the septic system side and ensure that cover crops are funded from the sewer side of the funds. If it were successful, it might make more sense if the choice was to fund septic systems.

Mr. Myers asked if this proposal was going to be taking all of the funding from the septic system side of the BRF. Dr. George replied that currently the funding will be provided from the sewer system side. In 2018, all ENR upgrades at major WWTPs should be funded and each year thereafter $60 million will be available for the most cost effective activities. MDE is proposing taking up to $10 million of the $60 million to buy credits and apportion them back out to the local jurisdictions in preferential order. It is conceivable that other funding proposals can be

submitted which are more cost effective than credit purchases and then they would be funded instead of purchasing credits.

Mr. Myers stated that one jurisdiction is coming close to their phosphorous and sediment load reductions within the required permit term but are not close to reaching their nitrogen reductions. If the focus is on the non-MS4 investment, then many other counties could be helped to meet their load reductions under the Watershed Implementation Plan (WIP). Mr. Myers suggested language which would help the counties outside the realm of the MS4 permit. Some counties will achieve their MS4 reductions and would meet their load allocation for nitrogen, phosphorous, and sediment; others will not be anywhere close, even if the permit limits are reached. Mr. Myers suggested investigating a way to separate out what is required under the MS4 permit so a jurisdiction can realize that there are additional load reductions needed to meet their WIP goals in addition to what is required in a given permit cycle.

Dr. George stated that the reduction required in the WIP for stormwater, in most cases, is more than one or two permit cycles. What could be proposed is if an MS4 jurisdiction has met its septic reduction goal, then credits would go to reducing the burden of the MS4 reduction goal outside of the permit. Mr. Michelsen stated that it is the State's obligation to meet the Total Maximum Daily Load (TMDL); if the State wants to pay to reduce its obligation, then it should be allowed, even if it is not in the county's best interest. Ms. Payne asked if this discussion was similar to allowing half of the funding to be reverted to the counties and the State controlling the other half of the credits apportioning them on the basis of where they are most needed. Dr. George stated that it was different. For example, if an MS4 jurisdiction has a 100 pound reduction to meet its MS4 permit and can get 20 pounds, the remaining 80 pounds still needs to be accounted for. What is being suggested is that the BRF could help with the remaining 80 pounds if no septic reductions remain to be achieved.

Ms. Buchheister stated that there was a concern about leaving MS4 out of the priority list due to the unregulated load, but looking at the BRF in total, there is a lot of funding going to Combined Sewer Overflows (CSO's), which averages it out. Mr. Myers stated that there is always the concern of those who pay in to the BRF that they will not get anything back, which his suggestion addresses. Dr. George stated that there are two paths, one is paying for reductions outside the MS4 permit, or leaving MS4s off the list recognizing the past precedent of not distributed proportionately to how they were paid in to the fund. Directing them to non-MS4s and septics would tilt the payments to more rural areas thereby reverse the past tilt of funds towards more urbanized areas. Ms. Buchheister stated that the remaining $50 million in the sewer part of the BRF could be used towards MS4's even if the $10 million in BRF credits are not allowed to be used for MS4s.

5. ALIGNING FOR GROWTH

Dr. George gave a presentation on the proposed conceptual approaches to Aligning for Growth (AfG). Mr. George stated that the AfG policy is being proposed for many reasons. The Phase III WIP will be implemented very soon, and EPA has indicated that AfG is going to be one of the expectations. The goal is to have the AfG policy developed before the development process begins on the Phase III WIP. AfG will allow for clarity on how the NPS pollutant load cap is ensured. Transparency will be provided on the where allocations for new land development NPS loads will come from. There is public interest in certainty and closure on these matters, especially in the. business community.

The Bay TMDL allocations were set for States by EPA. The Maryland Bay Cabinet divided allocations among the sectors and the State must reduce existing loads to meet its allocations and maintain the load cap in perpetuity. Regarding allocations for growth, for wastewater there is built-in growth capacity. There are no allocations for new loads in the other sectors, specifically stormwater loads from new development and OSDS loads from new development. The State will address loads from future farm animals in a separate policy discussion. EPA understands that this will be considered after the Phase 6 Chesapeake Bay Watershed Model (CBWM) is adopted.

The background on the AfG policy development process began with draft regulations presented in 2012.Eight meetings were held around the State, but that process ended without a broad consensus. In 2013, a stakeholder workgroup was created and ten meetings were held, as well as a variety of subcommittee meetings. Significant negotiations including legislative leaders were held, and a Final AfG Work Group Report was published August 2013.

Key considerations being addressed going forward: Creation of policies and procedures to re-divide the nutrient allocation pie as land use changes, ensuring that development is consistent with the nutrient cap, consideration of both local and Bay water quality, and the collection of information needed for these purposes.

It is important to re-divide the allocations when land uses change; currently there is no policy to account for those changes. Land use changes of about 68,000 between 2009 and 2015 provide a case study. Currently, the agricultural sector assumes a reduction towards its Bay goal when farm land is developed. New septic and stormwater systems receive no allocation and existing septic and stormwater must reduce more for new urban runoff and septic loads in this sector. The current default policy is not sustainable; stormwater pollutant reductions from existing urban areas cannot overcome zero allocations to new urban areas (Total Nitrogen loading rate for stormwater grew about 150,000 pounds per year between 2009 and 2015). The current policy is also inconsistent with point source policy; when a point source discharger ends operations, the allocation reverts to the State to be reallocated. Even if new loads could be reduced by the existing urban sector, it raises questions of fairness, and finally, reallocations must be subject to the public process, which currently is not occurring under the default policy.

The goal is to ensure development is consistent with the nutrient cap. Maryland has aligned policies that promote sustainable development, they include:

- Advanced Stormwater Management (2007)
- Forest Conservation Act (1991)
- Point Source Cap Management strategy (2008 PS Trading Policy under review)
- Enhanced Nutrient Removal (ENR) Upgrades at major wastewater treatment plants (WWTPs) (2004)
- Comprehensive Local Planning and Zoning Structures: Approved water and sewer planning requirements and adequate public facility ordinances
- Sustainable Growth and Agricultural Preservation Act (2012)
- Priority Funding Areas Act (1997), and the requirements of HB 1141 and HB2, and the Agricultural Stewardship Act

The PS Cap Management strategy is managing the PS in the same way that is envisioned for NPSs. Currently development on sewer is able to secure allocations from existing plant loading capacity or it must secure offsets. The NPS offset policy will depend on the policy for re-dividing the pie as land use converts. The State proposes reallocating load from existing land to new stormwater and septic sources and requiring shortfalls from reallocation process to be offset. Analyses will likely be conducted at a development site scale; however, the way this is done will strive for larger scale flexibilities. Dr. George gave estimates of the EPA Chesapeake Bay Program loading rates for stormwater, forest, agricultural land, septic systems and wastewater.

There are a few different ways to potentially calculate offsets. The first approach is designated as the "Threshold Approach." This approach determines proportions of agricultural and forested land on which future development is likely to occur for a defined area (i.e. major basin, 8-digit basin, locally-defined area). An Threshold Loading Rate would be set reflecting the area-weighted average unit load of forest and agriculture at WIP implementation levels for the defined area would be calculated. For each development in the defined area, the post-development unit load would be compared to the threshold. If the load is below the threshold, no offset is needed. The second approach is designated as the "Before & After Approach." (or Pre/Post Approach) The loads are calculated before and after development. If the post-development load is lower than the pre-development load, no offset is needed.

Regarding whether or not net nutrient loads increase from urban development depends on the geographic scale considered. For development in aggregate, considered on a large scale, such as statewide or on the major basin scale, estimates indicate that net nutrient loads are decreasing. For individual developments at a site scale, nutrient loads may increase or decrease depending on the characteristics of the development. This motivates conducting these analyses at the site scale to provide the opportunity for offsets, if needed, to be located near the development site. The

information needed is generally available during the development process; however, it is not currently collected and reported to the State. Simplified pre-development land cover can be deduced from Forest & Wetlands (delineated), agriculture, etc. The post-development land cover is known since it is used for stormwater calculations. Post-development stormwater controls should be known, but reporting needs improvement. Post-development septic systems are also known. Several tools exist, such as eNOI, and MS4 geodatabase, but none are fully functional.

There are several key take-aways. Policy is needed on re-dividing the allocations as land use changes. This policy sets the rules to determine if and how much of an offset would be needed. Two site level offset analysis options are being considered, the "Threshold Approach" and the "Before & After Approach." Information management will be a significant element of these policies, and the potential growth in agricultural loads will be addressed separately. The next steps include a more detailed briefing at the December 12 WQTAC meeting and topics will include reallocation rules proposed by the State, and examples will be provided of two offset options and how they would be implemented. The State will write policy based upon feedback received from the Committee. The State will share the policy with the Committee and consider additional meeting(s) in 2017. The goal is to reach closure on the core issues in the spring or summer of 2017 with implementation thereafter and use in the Phase III WIP.

Mr. Myers stated that there are two tools which would be useful:, the new CBWM 6.0 ,which has a much better resolved land use, and the urban version of the MNTT which allows the user to build site-scale scenarios with confidence. Mr. Michelsen stated that level of natural resource inventory analyses should be going on during any site-scale work. Mr. Shreeve stated that the best place for analysis is at the county planning level within their Master Plans. Counties know, through their analysis, where they want certain zoned areas (i.e. schools, WWTPs, fire departments, etc.). Knowing the offsets they need allows the county to plan for them. Counties are also part of the permit review process and have the ability to look at a developer's plan and make exceptions due to infrastructure already in place when necessary. Mr. Shreeve suggested allowing the counties the ability to target how they tackle their allocation goals. Mr. Myers agreed, but stated that unless the exemptions (which can be granted by the counties) are accounted for, then the counties should not have the ability to decide how to handle their allocation goals. Mr. Shreeve stated that a regulation would have to be created stating that if the counties allow exemptions, they will need to offset the exemptions.

Mr. Michelsen stated that site-specific analysis is favorable to direct development towards parcel which is the most polluting. The site-scale analysis allows a user to create an imbedded incentive to direct the development activities to ensure the land-use choices are most cost-effective from an accounting perspective. Mr. Shreeve stated that the counties should still determine the allocations as opposed to the State. Mr. Michelsen agreed and stated that once the

AfG program is put in place, a county could waive the AfG responsibilities for new development, but the cost associated should be articulated. Ms. Shreeve stated that they would be able to assess impact fees with a developer.

Mr. Ballentine asked for clarification regarding where at the state level the allocations are within limits but there is an issue at the site-specific level. Dr. George stated that statewide there is enough agricultural land being converted so there is a net load decrease, but in certain areas, at site-specific levels, there is in an increase in loads. Mr. Ballentine stated that the stormwater sector is growing. Mr. George stated that the issue with the stormwater sector growing is that 68,000 acres of development were put in place with no allocation, which puts a burden on the stormwater sector. Mr. Ballentine asked if both the State and local scales included the septic load. Mr. George stated that it is only stormwater.

Ms. Payne stated that there is issue with the policy as it will make agricultural land more attractive to be converted. Ms. Thompsons stated, regarding the availability of more specific land use and land cover data, that the average used for determining the load from the agricultural sector is not representative of the possible actual loads (i.e. fallow lands, high input crops, etc.) and supported the use of the site-scale models. Dr. George stated that there is a goal to avoid complication and to keep it simple, which motivates the use of a generic agricultural loading rate, at full WIP implementation levels, to ensure no net increase. Mr. Myers asked if there was a way the policy could incentivize the re-development of urban land for new growth. Dr. George replied there is the proposed policy will likely be rewritten to exempt redevelopment from an offset requirement initially.

Mr. Rood stated that 95% of the development which occurs is results in a net reduction. Mr. Rood advocated for a site-by-site analysis only when a project has a development footprint which is impacting a certain threshold of forest or is a septic project. The rest of the greenfield projects will most likely be nutrient-reducing. Also allow the applicant the option to complete the site-by-site analysis, and if they want to generate credits, then they have to demonstrate more detail of what the reduction specifically is. Mr. Shreeve noted that the applicant would not get the credits because as soon as the land use changes, the waste load allocation goes back to the State for distribution. Dr. George stated that some of the allocation could be distributed to the development to meet the offset obligations.

6. UPDATES

Mr. Ballentine reported that the National Network on Water Quality Trading sponsored a Stormwater Dialogue, which was a day and a half of intense discussion on the types of issues which were discussed today at a basic scale. There was a mix of individuals from different areas of the country. There were also individuals from not-for--profit groups on a national and international scale, as well as those from localities who are responsible for meeting reductions in

their towns and municipalities. Mr. Ballentine encouraged broader participation at these types of events in the future.

5. PUBLIC COMMENT

Ms. Buhl stated that there were proposals raised by other stakeholders which will be discussed at the December meeting. Since both were in attendance, Mr. Myers asked if they could briefly explain their ideas to the Committee to allow time to think them over in the interim. Mr. Levinsky stated that he was from Perdue's Sustainability Department and wanted to discuss the AgriRecycle program. The AgriRecycle program is a poultry litter recycling program in which the litter is collected from poultry growers (not limited to Perdue growers), heated and treated to kill pathogens and wheat seeds, pelletized, and sold as organic fertilizer. In 2015, about 40,000 tons of material was taken in, and about 72% was shipped outside of the Chesapeake Bay Watershed, which is reduction of about 3 to 6 million pounds of nitrogen and phosphorous. Mr. Levinsky proposed selling the credits generated by the nutrients removed from the watershed and asked if there was a possibility of such a proposal coming to fruition. In addition, Ms. Buhl noted that there was an idea raised regarding the installation of Best Available Technology (BAT) for septics in areas where they are not required in order to generate credits and indicated that will also be discussed in December as well.

6. UPCOMING MEETINGS

Monday, December 12, 1-4 p.m., MDE, 1800 Washington Boulevard, Baltimore, MD 21230