December 11, 2014

To: Scientific and Technical Advisory Committee
US EPA Chesapeake Bay Program

From: Frank J. Coale, Former Chair
Mark P. Dubin, Coordinator
Agriculture Workgroup
Water Quality Goal Implementation Team
Chesapeake Bay Program Partnership

Re: Response to STAC review of *Chesapeake Bay Goal Line 2025: Opportunities for Enhancing Agricultural Conservation* Conference Report

The Agriculture Workgroup (AgWG) is very appreciative of STAC's review of the summary report of the Partnership's technical conference, *Chesapeake Bay Goal Line 2025: Opportunities for Enhancing Agricultural Conservation*. The suggestions STAC provided for implementation of the conference's major outcomes were well focused and very helpful in guiding follow-up actions by the AgWG. Many of the short-term and long-term approaches suggested by STAC for reducing nutrient losses from agricultural lands have been incorporated in to current AgWG activities or will be incorporated into scheduled future activities. Below, is a brief accounting for how STAC's recommendations are being addressed by the AgWG and our state and federal partners. Additionally, any barriers to implementation of specific recommendations are identified.

- Nitrogen Management
    - Short term: The AgWG has commissioned a Cover Crop Expert Panel to fully re-evaluate the N, P and sediment reduction efficiencies of an expanded array of cover crops and cover crop management practices, including existing side-specific conditions. The panel has recently completed recommendations for the current modeling tools which have been subsequently approved by the partnership.
    - Long term: Effectiveness of diagnostic evaluation tools, such as soil and crop N testing, in guiding cover crop management decisions are expected to be an element of future panel evaluations of cover crops. Incentivizing N BMP adoption by increasing economic incentives is beyond the scope of the AgWG. However, the AgWG has empowered the Poultry Litter Subcommittee, Conservation Tillage Expert Panel, and Nutrient Management Expert Panel to address different aspects of manure N use efficiency. Evaluation of potential utilization of appropriate adaptive management strategies for efficient manure N management are included in each of the AgWG's subgroups' agenda.

- Alternative Manure Uses
    - Short-term: The AgWG established an ad hoc subcommittee which developed the scope, mission and suggested membership of a proposed Manure Treatment Technologies Expert Panel. This new Expert Panel has recently been formed under the new Virginia Tech technical assistance project, and will be tasked with evaluating the effectiveness of proven manure technologies and investigating the potential utility of emerging manure treatment technologies.
    - Long-term: The AgWG's sponsored Manure Treatment Technologies Expert Panel with Virginia Tech will evaluate the scientific and technical underpinnings of aggregate farm-scale projects for purposes of regulatory permitting and conservation credit marketing. The AgWG cannot create a regulatory "safe harbor" for innovative manure uses, but can provide technical information upon which entrepreneurs can evaluate potential technologies.

- Dairy Feed Management
    - Short-term: The AgWG's current prioritized list of BMP evaluation or re-evaluation does not include specific actions focused on incentivizing reductions in N and P in dairy feed or verify feeding levels using milk urea N or manure P testing.
    - Long-term: The AgWG's Nutrient Management Expert Panel and Poultry Litter Subcommittee have been considering whole-farm nutrient planning with a specific focus on manure generation and manure nutrient concentrations, and the impact on whole-farm N and P management.

- Phosphorus Management
    - Short-term: The AgWG's Conservation Tillage Expert Panel and Nutrient Management Expert Panel have considered appropriate accounting for incorporation and injection of organic nutrients as well as the seasonal implication of organic nutrient application as part of the development of their respective recommendations. It is beyond the scope of the AgWG to impose uniform phosphorus management planning among states.
    - Long-term: It is beyond the scope of the AgWG to reduce soil P levels to agronomic optimum levels across the watershed. Developing whole-farm phosphorus management plans will not result in the reduction in soil P levels to agronomic optimum levels across the watershed.

- Ammonia Management
    - Short-term: The AgWG's current prioritized list of BMP evaluation or re-evaluation does not include specific actions focused on animal diet modifications. The AgWG's Conservation Tillage Expert Panel and Nutrient

Management Expert Panel have considered appropriate accounting for incorporation and injection of organic nutrients in their respective recommendations, as well as the seasonal implication of organic nutrient application, which will impact ammonia volatilization.

- Long-term: The AgWG's current prioritized list of BMP evaluation or re-evaluation does not include specific actions focused on ammonia losses from animal housing by using non-litter flooring in poultry houses and urine separation in dairy barns.

- Livestock Manure Management
  - Short-term: Changing state and federal CAFO standards is beyond the scope of the AgWG. The AgWG's Conservation Tillage Expert Panel and Nutrient Management Expert Panel have considered appropriate accounting for incorporation and injection of organic nutrient sources in the development of their respective recommendations.
  - Long-term: The AgWG previously established an ad hoc subcommittee to develop the scope, mission and membership of a Manure Treatment Technologies Expert Panel. This new Expert Panel has been formed under the new Virginia Tech technical assistance project, and will be tasked with evaluating the effectiveness of proven manure technologies and investigating the potential utility of emerging manure treatment technologies. The AgWG's sponsored Manure Treatment Technologies Expert Panel with Virginia Tech will evaluate the scientific and technical underpinnings of aggregate farm-scale projects for purposes of regulatory permitting and conservation credit marketing.

As a result of the collaborative efforts of the Agriculture Workgroup and STAC in conducting the Partnership's technical conference, *Chesapeake Bay Goal Line 2025: Opportunities for Enhancing Agricultural Conservation,* the conference's outcomes lead to the holding of a second two-day conference entitled Building a Better Bay Model which was held at the University of Maryland in May of 2013. The more focused agricultural conference, which was financed by the USDA Mid-Atlantic Water Program (MAWP), lead to a further development of specific recommendations for the Chesapeake Bay Program modeling tools.

STAC's support of the initial Goal Line Conference, and subsequent review of the recommendations of the conference's major outcomes, were again well focused and very helpful in guiding follow-up actions by the AgWG. The workgroup looks forward to working with STAC in the future on continuing implementation of the recommendations of the two conferences to address short-term and long-term approaches for reducing nutrient losses from agricultural lands.