Proposal: A BMP Protocol appeal for science-based dissent from Expert Panel Report

Background: The review and approval of the Expert Panel Reports following the *Protocol for the Development, Review, and Approval of Loading and Effectiveness Estimates for Nutrient and Sediment Controls in the Chesapeake Bay Watershed Model*, approved by Chesapeake Bay Program Partnership on July 13, 2015. An Expert Panel Report was developed for Cropland Irrigation Management and entered the approval process on January 16, 2019. Irrigated cropland acres in Delaware and Maryland are a significant and growing sector of agriculture in coarse, drought prone soils. Pennsylvania and Delaware opposed the report through the approval process under the Water Quality Goal Implementation Team citing deviations from and discomfort with the Protocol process.

Delaware made efforts to achieve consensus in the Agriculture Workgroup approval process by commenting extensively on the Report and providing new lines of evidence supporting an efficiency estimate. While edits to the report were made to reflect some comments, the Panel did not engage in a meaningful dialog with Delaware as outlined in the Protocol and did not adjust their recommendation of zero credit for Irrigation Management:

> *In the event that a comment does not result in a change to the Panel's report, the Panel Chair and Panel Coordinator shall work with the specific commenter(s) to resolve the issue.*

While DE was well represented in terms of expertise on this Expert Panel, the recommendation of the Report was based on inconclusive results from local experimentation for which the BMP Protocol outlines such findings as low quality (see BMP Protocol Table 1). The report did not investigate model or calculated nitrogen savings as an alternative method of derived model credit. The BMP Protocol allows for modeling exercises to determining effectiveness estimates,

- *Nitrogen, phosphorus, and sediment loading or effectiveness estimates (practice performance recommendations)*
    - *Discussion may include alternative modeling approaches to accommodate a specific land use or practice, if appropriate*

In order to concurrently respect the Protocol process and Delaware's scientific objection to the report, more work needs to be done before this report is voted on.

Suggested Path Forward

- A supplementary ad hoc Expert Panel is recommended in order to resolve outstanding questions within the Irrigation Expert Panel report at the GIT level. Delaware proposes an investigative comparison of residual nitrogen from dryland acreage throughout the Phase 6 Model calibration period where as drought years would result in negligible nitrogen uptake and therefore a high leaching load, but irrigated acres would have a consistent nitrogen loss fraction. The average annualized difference would represent a reasonable conclusion of model credit/deficit, supported by some peer-reviewed reference and:
    - At best supported by statistical analysis or;
    - At worst inferences in the referenced data;
    - Resulting medium to high quality conclusions (see BMP Protocol Table 1).

- Expert Panel report will only incorporate this new evidence; no other changes will be proposed without new evidence.
- The interim efficiency of 4% total nitrogen, confirmed by consensus by the WQGIT on June 10, 2019, will continue to be effective until such an Alternative Report can be approved.
- Delaware will refrain from objecting to consensus approval of the report provided a Management Board action is documented to allow Delaware to pilot this ad hoc supplement aiming to document a value for the Irrigation Management BMP for Progress reporting under the Water Quality Goal Implementation Team's approval.
    - WQGIT authority avoids some potential conflicts of interest.