

## **BMP Protocol/ Procedural Concerns – CBPO EPA**

- We would like the issue to be thoroughly reviewed according to the BMP Protocol (including adequate time for comments and responses to substantive comments in the public record) rather than rush it through to get it into 2014 Progress.
- According to the report, “Verification considerations were discussed and the discussion has been deferred to its own Expert Panel established by AgWG on September 29, 2013. The Expert Panel intends to yield to the newly created Agricultural Management Plan Expert Panel for developing guidance on how to verify nutrient application management BMPs. The panel notes that verifying active plans in compliance with the approved definitions presents unique challenges compared to BMPs that are visibly implemented.” Would the panel confirm that there is, in fact, a newly created Agricultural Management Plan Expert Panel? Knowing how approval of the panel’s recommendations are being “expedited”, when will a verification group develop guidance on how to verify nutrient application management BMPs – as recommended by the panel? When does this occur in the BMP Protocol process?
- A considerable amount of the Tier 2 report seems to be a review of a literature review conducted by the panel’s contractor – and written by the contractor. Why did the panel choose not to explain how and which information from the literature review – was used in their judgment of Tier 2 benefits? Please explain this disconnect between the search findings (written in great detail) and the panel’s recommendations. How, specifically, was information from the search assessed according to Protocol guidelines and used.
- According to panel recommendations, “acres that could not be verified should not be credited.” Since the panel is made up of 28 experts in Nutrient Application Management, it would be helpful/essential to have documented discussion of this statement.
- The BMP protocol “Protocol for the Development, Review, and Approval of Loading and Effectiveness Estimates for Nutrient and Sediment Controls in the Chesapeake Bay Watershed Model”, July 2014 states that it’s critical for BMP definitions and effectiveness estimates be developed in a process that is consistent, transparent, and scientifically defensible. For transparency and consistency with other panels, did the Nutrient Application Management panel adhere to the following?
  - The report states that all panel members agree to all recommendations and, if there are any dissenting opinions or caveats to agreement, they need to be a part of the report.
  - That the panel members receive all substantive comments about the report, write responses to these comments in the report, and have these substantive questions/responses addressed prior to voting for approval by the Agriculture Workgroup, Watershed Technical Workgroup and Water Quality Goal Implementation Team. According to the BMP Protocol, “although the Panel Chair and Coordinator are responsible for managing the comment process, Panel members may be expected to address and respond to comments received during the comment period for the relevant draft of the Panel’s recommendations.” How many of the 28 members of the panel wrote responses to comments?

- According to the BMP Protocol, “the Scientific and Technical Advisory Committee (STAC) will also be afforded the opportunity to comment before final approval.” Has this report been provided to STAC for comment or just to members of the Agriculture Workgroup, Watershed Technical Workgroup and Water Quality Goal Implementation Team?
- According to the BMP Protocol, “the Expert Panel will develop definitions and loading or effectiveness estimates for nutrient- and sediment-reducing technologies and practices. The Panel will work with the source Workgroup and WTWG to develop a report that includes the following:” Please identify where in the report these requirements are addressed, or if they are not addressed, include the element in the report – to follow protocol.
  - Justification for the selected effectiveness estimates, including
    - Detailed discussion of how each reference was considered, or if another source was investigated, but not considered.
  - Description of how best professional judgment was used, if applicable
  - Conditions under which the BMP works:
    - Should include conditions where the BMP will not work, or will be less effective. An example is large storms that overwhelm the design.
  - Useful life; effectiveness of practice over time
  - Cumulative or annual practice
  - Description of how the BMP will be tracked, reported, and verified:
  - Documentation of any dissenting opinion(s) if consensus cannot be reached
  - Operation and Maintenance requirements and how neglect alters performance
- According to guidelines in the BMP Protocol, negative results need to be considered. Specifically, “where studies with negative pollution reduction data are found, they should be considered the same as all other data.” During the time since cropland became eligible for the panel’s criteria of Tier 2 Nutrient Application Management, there are several lines of evidence (through quality data covering the entire Chesapeake Bay watershed) showing that application rates to cropland for nutrients INCREASED for both manure and fertilizer – beyond what can be substantiated through improved yields. Why didn’t the panel consider this information – if eligibility for Tier 2, according to the (vague) definition, seems to essentially be changes in plan recommendations and record keeping?
- Please explain how the period for review, comments, and approval for these recommendations DOES NOT violate the BMP Protocol, specifically, “The Panel Coordinator and/or sector Workgroup Chair will be responsible for distributing the draft Expert Panel report at least ten business days in advance of each kick-off meeting, and at least ten business days in advance of the approval meeting of the (1) source sector Workgroup and WTWG; and (2) the WQGIT. The review and comment period for each stage shall be twenty business days in duration beginning the business day after each kick-off meeting and ten business days prior to the approval meeting.”
- As we’re still in the comment period for this report, how will the following element in the BMP Protocol be adhered to? [The Panel Chair and Coordinator will be responsible for developing a “response to comments” document that provides a response to comments received. This document will be posted as an appendix to the final Panel’s report.] How can a vote on approval

of the panel's recommendations be taken prior to workgroup members seeing any response to comments from the panel?

- How and when will the panel adhere to the following in the BMP protocol? "In the event that a comment does not result in a change to the review Panel's report, the Panel Chair and Panel Coordinator shall work with the specific commenter(s) to resolve the issue." As with all other panels, this needs to happen prior to a request for approval of recommendations.
- How and when will the panel adhere to the following in the BMP protocol? "In the interim between the two approval meetings, the objecting member(s) shall work with the respective Panel Coordinator, Panel Chair, Workgroup/GIT Chair and Coordinator to resolve the objection, including drafting clarifying text or proposing an alternative option."
- Will the following from the BMP protocol be adhered to? "In the event that the Expert Panel recommendation(s) are modified during the review and comment period, a separate section will be added to the Expert Panel final report explicitly detailing the original Expert Panel recommendations and how those recommendations were modified as reflected in the final report. In addition, any unresolved issue(s) or dissenting opinions should also be included."
- As with all panels, draft reports go out at the various stages of approval (providing enough time to review) so that comments can be compiled, addressed by the panel, and documented in the report – all before approval is requested. I can't think of any BMP to-date where this is more important than Tier 2 Nutrient Application Management. CBP is doing this for relatively minor (in implementation) urban practices and there have been several roadblocks along the way to approval that were eventually addressed by the panel, chair, or coordinator to satisfaction. There needs to be the same thorough review and comments from stakeholders – and a response to the comments as part of the public record which is the report. Does the panel understand why this is important and agree that there shouldn't be a different set of WQGIT rules for this panel?
- It's imperative the answers to member comments and questions be part of the record, which is the report. Once a report is approved, we have nothing from the panel in the record to cite or to go to for guidance in answering questions. I anticipate there will be many questions regarding Tier 2 during the 2014 Progress run. In the past, results from progress model runs have been delayed for months as the definition of Decision Agriculture and Enhanced Nutrient Management were debated. As the panel report notes, there was nothing to go to for clarity on these practices – so the debate came about because of different "interpretations" of the definition. I see the same thing happening for, at least, the part of the Tier 2 definition "supported with records demonstrating efficient use of nutrients for both crop production and environmental management." Where in the report are listings of types of records that would suffice – according to the panel?

## Scientific/Definitional Concerns – CBPO EPA

- We've asked for more clarity in the report about what data and information needs to be provided (possibly to CBPO) to verify being at Tier 2 levels. Clarity is essential to address the yearly debate with states about compliance of their reported 2.5 million acres in Nutrient Management.
- The Expert Panel may be able to substantiate doubling the nutrient benefits on an acre of land from Tier 1 to Tier 2, but we feel they're relying too heavily on unpublished data from small-scale studies. I'm a bit concerned about unpublished data from MD versus USDA's statistically sound survey results over a 6-8 year period covering the whole watershed and each and every element of Nutrient Application Management. CEAP-reported increases in both nitrogen and phosphorus per-acre application rates of manure and fertilizer over the period since the panel is saying Tier 2 began is disconcerting. It really needs a thorough discussion in the record that we can cite. It's not my question alone. We need a defensible response in an approved report.
- According to USDA (CEAP), application rates of N and P on crops have increased over a recent 7-year period for the CB watershed as a whole – for both manure and fertilizer nutrients.
- We also recently obtained data showing significant increases in N fertilizer sales from 2007-2012 in all states but WV – and increases in P fertilizer in MD and PA. The increasing use of fertilizer tracks big jumps in corn production and it is to a degree beyond what improved yields could achieve.
- Both of these lines of evidence are strong and are contrary to the effect of jumping 2.5 million acres of crop to Tier 2 with twice the nutrient benefits of Tier 1. Please discuss in response.
- If reported implementation is going to be as great as you're suggesting (e.g. 100% Tier 2 in VA), it will greatly surpass the implementation rate of Nutrient Application Management surveyed by USDA for CEAP for improved rate, timing, method, and form of application. CEAP data indicates increases in both nitrogen and phosphorus per-acre application rates over the period 2003-2006 and 2011 – for both manure and chemical fertilizer. The CBP Nutrient Application Management panel is noting just the opposite over this period – so we need something that we can cite discussing the issue. Yield changes can't substantiate such a trend. The many sections in CEAP about what farmers are doing regarding Nutrient Application Management that's specific to this watershed, is watershed-wide, addresses recent history, manure versus fertilizer, application timing, method, etc. – shouldn't be ignored in the report because these are the types of questions that will likely be asked.
- **Response to CEAP questions: CEAP was not ignored by the panel. Several of the members of the panel were also involved in the STAC review.**  
Reply: I did a search of the draft report for "CEAP" and there's no discussion of substance in the report or meeting minutes – although the minutes reveal I (and others) asked for this documented discussion last year in anticipation of important stakeholder questions – so we can cite answers from the panel in the report.
- What are the minimum reductions in N and P application rates – and changes in timing, method and form – that correspond to the recommended loading reductions in the report.

- The ~~Nutrient Management Expert Panel (Panel)~~ reader of this report determined that the Expert Panel's definition of nutrient management (NM) is vague and inadequate. Furthermore, the ~~current~~ recommended credit for NM is inconsistent and does not reflect ~~the best professional judgment (BPJ) of national experts on the suite of practices regarding the change from a pre-best management practice (BMP) condition~~ comprehensive data and information from USDA specific to the Chesapeake Bay watershed over many years as well as quality data over a similar time period from the Association of American Plant Food Control Officials (AAPFCO) regarding fertilizer nutrient use, also specific to the Chesapeake Bay watershed.
- According to the report, "The Panel indicated that all three NM tiers likely have acres available for credit in every state." What's the basis of this statement for Tier 2 when the panel has not clearly defined what meets and doesn't meet the definition – a vital charge given to the group?
- How (and to what degree) were results of studies included in Appendix A used in the panel's recommendations?
- Please respond with respect to the line in the report, "The Panel based the effectiveness solely on LGU recommendation changes over time because of a lack of scientific literature documenting efficiencies of the proposed practice." Is the panel saying there's a lack of scientific literature about a BMP that has the potential of affecting 2.5 million acres in the Chesapeake Bay watershed that, according to the report itself, "is one of the oldest best management practices (BMPs) in agriculture and is the cornerstone of stewardship efforts by conservation groups, producers and jurisdictions.
- Why does the report state, "In the absence of historic surveys on nutrient applications to crops" when, a year ago, the panel was provided with a USDA report based on high-quality data – describing, in detail, changes in fertilizer and manure nitrogen and phosphorus application rates to crops, changes in timing, form, and method over a ~ 7 year period of Tier 2 Nutrient Application Management that's specific to the Chesapeake Bay watershed? The report states that there have been increases in both N and P application rates over this period and specifically notes "Crop use efficiency remained relatively constant." Please reconcile.
- If "FLNAM is a new practice that reflects the substantive change in NM that addresses P applications and methods by the LGUs and jurisdictional policies circa 1995," why is the panel saying implementation of Tier 2 begins 10 years afterwards?

## WTWG/Model Concerns – CBPO Modeling + CBPO EPA

- Although better than definitions for Decision Agriculture and Enhanced Nutrient Management, the recommended definitions are still vague to the point of not being able to establish whether an acre reported under Tier 2 clearly follows the definition and, therefore, is eligible to receive the recommended nutrient reductions for model purposes. Clear definitions were one of the primary reasons the panel was established – to end yearly lengthy debates about the eligibility of acres reported under Nutrient Application Management. This issue remains unless the definitions are clearer. What data and information are needed (and needed to be reported to CBPO) to establish and verify an acre in Tier2 opposed to Tier 1 and opposed to no Nutrient Application Management?

## Verification Concerns – CBPO EPA + CBPO Modeling

- Proposed Tier 2 Nutrient Management benefits without verification of compliance could put 2.5 million acres of Tier 1 Nutrient Management (reported last year) into Tier 2 this year with about twice the nutrient benefits. Would this reflect an actual change in on-the-ground management action that would yield changes to non-tidal water loads as measured by a monitoring program?
- On the Tier 2 Nutrient Management: What should states be submitting this year? Last year we assumed that states were at the more traditional level of Tier 1 Nutrient Management, and their reductions (except for in DE) mirrored fairly well their reductions they would have received with the land use change BMP. I'm concerned that states may claim to be at Tier 2 Nutrient Management for this progress year even though they weren't submitting any enhanced nutrient management last year. That would double the reductions of P for every acre of nutrient management without there really being a change in management actions on the ground. Do you think most states are at Tier 2, or are they still at Tier 1?
- **Response: All the states have Tier 2 plans. Every state with the exception of perhaps PA and WV will have a majority Tier 2 plans. All of VAs plans are tier 2. Enhanced NM is completely different, so it doesn't surprise me that few states submitted a handful of acres.**
- It would be best to have a table in the report listing each state, the year Tier 2 began, and the basis for beginning Tier 2 that particular year. As you know, if Tier 2 is introduced in 2014 Progress, it will appear as if there's been a major increase in implementation when, in fact, there's been little change in management on the ground from last year for this particular BMP. There will likely be stakeholders who publically question the abrupt "paper" shift so we need to be prepared – and have clear, specific documentation from the experts on this panel that can be cited – and, if that doesn't meet the needs, be available for questions that come to the office about the recommended benefits.
- So does the use of Tier 2 Nutrient Management result in a reduction in application rates or changes to the other 3Rs on the ground? How long has every state been at Tier 2? Does it go all the way back to the calibration?
- **Response: Tier 2 came on the scene around 2005 depending on the land grant university, state agency and the regs, so as far as acres in calibration, I would estimate very few. Tier 2 is a**

change in rates, especially an increase in acres getting no rate. Several components in tier 2 are based on the other 3 Rs.

- Is there any chance some of those details could be included in the report? I think including descriptions as you just did in the main text would answer a lot of questions from partners at the WTWG level and beyond.
- If Tier 2 Nutrient Application Management is introduced for 2014 Progress to the levels you're predicting, there will be significant model load reductions attributed to the BMP that will contradict measured trends in loads. According to an in-depth analysis of 25-30 years of monitoring data by USGS, 6 of 9 major tributaries are showing degrading conditions in TOTP loads over a recent 10-year period – where long-term trends were not as dire. Degrading conditions for TOTP are measured for Susquehanna, Choptank, Rappahannock, Pumunkey, James and Appomattox – many of which are predominantly agriculture above the fall line.
- For nitrogen, only 1 of the 9 major tributaries is showing improving conditions in TOTN loads over a recent 10-year period (wastewater-dominated Patuxent). The other 8 have flat-lined, i.e., no improvement in TOTN loads. There were decreasing TOTN loads in the Susquehanna and Potomac over the long term – that have recently leveled out. This implies it's not lag times.
- The point is that the effect of the panel's recommendations, for (apparently) one of the most extensive BMPs in the watershed, yield results in the model that directly contradict observations – when we know monitored wastewater discharges and atmospheric deposition are, in fact, decreasing. Please comment how the initiation of Tier 2 Nutrient Application Management across extensive regions of the CB watershed (which would greatly affect surface runoff and groundwater discharge) could occur when water quality conditions stopped improving or began to degrade in these same regions –and where conditions continue to degrade many years later.
- The Nutrient Management Expert Panel seems reluctant to address this issue in their report – implying it's solely a verification problem. However, their premise is that Tier 2 is different than Tier 1 because of heightened oversight by the state, conservation districts, etc. and more required reporting by farmers. Please address.
- I believe your panel didn't want to address verification, but it's right there in the definitions. It's great that this is part of the definition, but we need more clarity on "Implementation of formal NM planning is documented and supported with records demonstrating efficient use of nutrients for both crop production and environmental management." There should be specifics in the Technical Appendix and the report about what kind of documentation or what kind of records/data are needed from state/federal/districts to substantiate the reported implementation follows the definitions of Tier 2. Knowing the history of reporting this BMP for model purposes, the documented specificity is imperative.
- If this is more about verification, then the CBP Verification Committee should have time to thoroughly vet. Does the panel agree?
- Of all BMPs that have been through panels, this one needs more scrutiny because of the extent and potential benefits of the practice and its high visibility among stakeholders. Does the panel agree?