

## Chesapeake Bay Program Partnership’s Phase 6 BMP Expert Panel Schedule and Potential Policy Considerations

The Chesapeake Bay Program (CBP) partnership has approved over 200 BMPs for nutrient and sediment reduction credit in the partnership’s modeling tools, and there are currently 17 BMP Expert Panels underway<sup>1</sup>. Each of these Expert Panels was identified by the Water Quality Goal Implementation Team’s (WQGIT) Source Sector Workgroups as priority Expert Panels for inclusion in the Phase 6 suite of modeling tools. Therefore, these “Phase 6” Expert Panels need to be complete by October 1, 2016 in order to meet the final Phase 6 calibration deadlines<sup>2</sup>.

Although the WQGIT is typically the key decision-maker for the CBP partnership’s BMP Expert Panels, the Phase 6 BMP Expert Panels denoted with an asterisk (\*) have the potential to be elevated to the Management Board and/or the Principals’ Staff Committee for review and decision, either due to policy considerations or potential partnership non-consensus. The level of detail on what these policy considerations may be vary given the existing status of a Panel in the deliberation process or in the partnership’s review and comment period. This document will continue to be updated and shared with the Management Board and Principals’ Staff Committee as further information becomes available.

<b>BMP Panel Name</b>	<b>Sponsoring Workgroup</b>	<b>Workgroup/WTWG Approval Date</b>	<b>WQGIT Approval Date</b>
Algal Flow Ways	Watershed Technical WG	January 2016	January 2016 (complete)
Street Sweeping	Urban Stormwater WG	January 2016	May 2016 (complete) – Management Board approved
Manure Technologies*	Agriculture WG	June 2016	July 2016
Advanced Onsite Systems (Attenuation), Part 2	Wastewater WG	June 2016	July 2016
Oyster Restoration/Aquaculture* <sup>3</sup>	N/A	N/A	July 2016
Urban Tree Canopy	Forestry WG	June 2016	July 2016
Floating Wetlands	Urban Stormwater WG	July 2016	August 2016
Impervious Disconnection	Urban Stormwater WG	July 2016	August 2016
Phase 6 Conservation Tillage	Agriculture WG	July 2016	August 2016

<sup>1</sup> The Algal Flow Ways and Street Sweeping Expert Panels were recently approved by the CBP partnership.

<sup>2</sup> With the exception of the Cropland Irrigation Management and Agricultural Stormwater Structures BMP Expert Panels, given the delay in these Panels convening. The partnership will deliver the Panels’ recommendations to the Modeling Workgroup by December 2016. It is not anticipated that such a delay will impact the development and finalization of the Phase 6 modeling tools.

<sup>3</sup> The specific policy issues for the Oyster Restoration and Aquaculture BMP Expert Panel can be found in Appendix A. A Management Board-led policy group is currently being formed to address and resolve the identified policy issues.

Manure Injection/Manure Incorporation	Agriculture WG	July 2016	August 2016
Phase 6 Cover Crops*	Agriculture WG	August 2016	September 2016
Phase 6 Nutrient Management*	Agriculture WG	August 2016	September 2016
Advanced Onsite Systems (drip dispersal and peat treatment w/ dispersal to pad), Part III	Wastewater WG	August 2016	September 2016
Boat Pump-Out	Wastewater WG	August 2016	September 2016
Animal Waste Storage Systems	Agriculture WG	August 2016	September 2016
Agricultural Ditch (NRCS BMPs)	Agriculture WG	August 2016	September 2016
Wetlands	Wetlands GIT	August 2016	September 2016
Cropland Irrigation Management	Agriculture WG	November 2016	December 2016
Agricultural Stormwater Structures	Agriculture WG	November 2016	December 2016

## Potential Policy Considerations

### Manure Treatment Technologies Expert Panel

Based on comments received on the draft panel report, there are two potential policy issues that may or may not elevate the Panel's report to the Management Board and the Principals' Staff Committee:

- **Nitrogen volatilization and deposition.** Some of the technologies remove nitrogen through volatilization and air emissions through thermochemical or microbial (i.e. composting) processes that heat the manure. In terms of the Watershed Model, that nitrogen is no longer in the manure that is subsequently land applied or transported, so that's a reduction from the modeling perspective. There's extremely limited peer-reviewed data for the Panel to determine the portions of nitrogen emitted as NH<sub>3</sub>, N<sub>2</sub> or NO<sub>x</sub>. Even where data exists, it varies wildly from system to system, and even varies for similar systems on different farms. Furthermore, the states have different air quality regulations or requirements (for NO<sub>x</sub>, particulate matter, etc.) that potentially apply to thermochemical systems. This issue affects other agricultural BMPs, not just the manure treatment technologies reviewed by the Panel.
  - **Replacement nutrients and water quality trading.** When manure is treated and/or transported, there is still a question of whether or not other nutrient sources (e.g. inorganic fertilizer) are applied to fields in place of the treated or transported manure. From a water quality trading perspective, the Panel's recommendations are only a part of the picture since the Panel was never instructed to look at this issue of replacement nutrients. So while there is intense interest from the private sector to use these treatment technologies to generate water quality trading credits, the state jurisdictions first need methods for how to calculate the credits for their own trading programs, using their own tools/platforms, trading registries, etc.
- Both issues are outside the Panel's scope and the CBP partnership will most likely need to address these issues through a policy group.

### Urban Tree Canopy (urban tree planting) Expert Panel

- The Panel report is currently under its initial 30-day CBP partnership review and comment period until June 9, so there may be more information about potential policy issues after that comment period has closed. Based on initial discussions with the Forestry Workgroup, it is possible that the report could be elevated due to concerns over the Panel's recommended approach for estimating tree canopy acreage that results from tree planting for annual progress runs.

### Phase 6 Nutrient Management Expert Panel

- Given the past history of the representation of this is BMP, including recent partnership discussions over nutrient management compliance, it is likely that the current Phase 6 Panel report will be elevated to the Management Board for decision and policy resolution.
- The Agriculture Workgroup reached consensus to approve the Nutrient Management Panel's preliminary report, and the general structure of the BMP, with the understanding that there may be minor revisions as the Panel continues their work, and to incorporate the Panel's current recommendations into the July 2016 (Beta 3) calibration of the Phase 6 Watershed Model.
- The Nutrient Management Panel will coordinate with jurisdictions, specifically West Virginia and Pennsylvania, to address concerns related to non-formal nutrient management programs in order to capture scientifically valid methods that can be credited as nutrient management in the definition of the BMP. The Panel is also requested to provide state-specific guidance on unique elements so each state's manure/nutrient programs would match up with what the final report describes.

### Phase 6 Cover Crops Expert Panel

- The Cover Crops Expert Panel is currently struggling to redefine Commodity Cover Crops, which has been represented in the modeling tools for multiple years. There is considerable work ahead to create a modeling representation of this BMP with the new Phase 6 land uses, and how double-cropping systems are characterized in the future. There may not be full partnership consensus on the Panel's recommendations if the Panel is not able to allow fall manure applications within the BMP definitions. This has a moderate to high potential to require Management Board and/or Principals' Staff Committee action.

## Appendix A: Policy Issues Raised by Partners and Stakeholders as the Chesapeake Bay Program Partnership’s Oyster BMP Expert Panel Carries Out its Charge

### Background

In September 2015, the Chesapeake Bay Program Partnership’s Water Quality Goal Implementation Team (WQGIT) approved the proposed charge and membership of the Oyster BMP Expert Panel after the initial proposal was presented to the Partnership in April 2015. Since being convened, the Panel has had 8 meetings and hosted a public stakeholder meeting and webinar with around 60 people participating. In addition, the Panel has briefed and presented to the Partnership’s Citizens Advisory Committee, the WQGIT, and the Sustainable Fisheries Goal Implementation Team.

### Current Status

Over the course of their work, the Panel, as well as involved partners and stakeholders, have been identifying policy issues that are outside the scope of the Panel’s charge. At its April 14<sup>th</sup> meeting, the Partnership’s Management Board asked for a summary of the identified the oyster BMP policy issues. The issue paper was distributed on April 21<sup>st</sup> to WQGIT members as well as the chairs and coordinators of the five Goal Implementation Teams, and the coordinators of the Partnership’s three advisory committees. Comments were provided to the WQGIT coordinator and staffer by May 6<sup>th</sup>. A revised version of the issue paper was then shared with the WQGIT members for their May 9<sup>th</sup> conference call and the Management Board’s May 19<sup>th</sup> meeting. A compilation of all partner and stakeholder comments provided on the April 21<sup>st</sup> version of the issue paper, along with CBPO staff responses to each comment received, is available at:

<http://www.chesapeakebay.net/calendar/event/23833/>.

### Policy Issues Raised by Oyster BMP Expert Panel Members<sup>4</sup>

- Oyster Shell
  - Some of the panelists are concerned that the development of crediting protocols for nitrogen and phosphorus assimilation in oyster shell will dis-incentivize returning oyster shell to the Bay, which is an important commodity to support methods to restore the oyster population and increase aquaculture in the Chesapeake Bay.
    - Overall, the panelists feel there is enough science to determine the reduction effectiveness for nitrogen (N) and possibly phosphorus (P) assimilation in oyster shell.
    - However, panelists feel there could be detrimental unintended consequences if such crediting protocols result in jurisdictions supporting efforts to not return the oyster shell to the Bay.
- Permanent Removal from the Bay Versus Removal from the Water Column
  - Panelists weren’t sure whether the N and P sequestered in the shells of oysters that aren’t harvested would be considered valid pollutant reductions in a BMP context. The panelists also had a similar question concerning suspended sediment that is deposited on the bottom. Overall, this line of questioning pertains to whether a recommended reduction effectiveness estimate can be based on how much of the pollutant is removed from the water column. Models could be used to estimate this reduction, but the Panel was unsure if they should continue the discussion if it doesn’t fit policy-wise.
- Crediting Protocol Based on Water Clarity Instead of Suspended Sediment Reduction

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<sup>4</sup> These policy issues were summarized by the Oyster BMP Expert Panel coordinators from the Oyster Recovery Partnership based on Panel discussions over the course of the past eight panel meetings held since September 2015.

- Since the water quality standard is specific to water clarity, can the reduction effectiveness be developed with water clarity as the endpoint (e.g., x amount of oysters in x amount of area would result in x percent water clarity improvement) even though the BMP Review Protocol explicitly states effectiveness estimates for nitrogen, phosphorus, and sediment controls. Some panelists have expressed interest in this approach, but weren't sure if it would be acceptable.
- Other panelists have expressed concern about double-counting if protocols are developed for both N and P removal and water clarity, since water clarity improvement from filtration includes particulate organic matter.

### Policy Issues Raised by Chesapeake Bay Program Partners and Stakeholders<sup>5</sup>

- Establishing a Baseline
  - Jurisdictions should not be seeking credit for oysters that are already being grown/raised, but rather should only receive credit for new or expanding projects.
  - Current wild and aquaculture populations should be determined and established as a population baseline with a recommended temporal baseline of January 1, 2011 or after (reflects period after the completion of the Bay TMDL). (CBF)
- Crediting of Oyster Shell Removal
  - Omit oyster shell crediting because of unintended consequence of reducing critically needed sources of oyster shell. (CAC, CBC, CBF)
  - Crediting should be developed in such a way that does not provide disincentives for shell recycling programs. (SELC)
- Scale of Permanent Removal to Make a Real Water Quality Difference
  - “There are serious issues of scale. According to VIMS, in the Lynnhaven River alone nearly 50 million oysters and their shells would have to be permanently removed from the water every year just to meet 1% of the required nutrient reduction. Not only is the scale of this problematic and unrealistic, but this practice also exacerbates the oyster shell shortage that challenges oyster reef restoration.” (CAC)
- High-intensity, Large Scale Oyster Aquaculture
  - “High-intensity oyster aquaculture may pose serious un-intended consequences to the Bay and could undermine the progress we had made and the millions of dollars spent to date restoring native oysters. These large-scale culturing operations have the potential to spread diseases and parasites to nearby native oysters and restoration projects.” (CBP CAC)
- Oysters as BMPs for Water Quality trading
  - “While CAC supports efforts to restore native oyster populations and to promote oyster aquaculture in the Chesapeake watershed as an iconic species, food source, and for its habitat and other ecosystem values, we are concerned about whether oysters are appropriate BMPs for water quality trading.” (CBP CAC)

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<sup>5</sup> These policy issues were extracted from the November 2015 letters from the listed organizations responding to the call for public stakeholder feedback on the Panel's then framework as presented during the November 2, 2015 public stakeholder meeting and webinar, the February 8, 2016 WQGIT meeting, and during the WQGIT and other partners and stakeholders review of the April 21, 2016 draft issue briefing paper entitled: “Reaching Partnership Agreement on How to Address the Policy Issues Raised As the Oyster BMP Expert Panel Carries Out its Charge.” CBC: Chesapeake Bay Commission; CBF: Chesapeake Bay Foundation; CBP CAC: Chesapeake Bay Program's Citizen Advisory Committee; DE DNREC: Delaware Department of Natural Resources and Environmental Control; and SELC: Southern Environmental Law Clinic.

- Crediting for Sediment Load Reductions
  - Allow credit for sediment reduction for the shell making up a reef or as part of an aquaculture operation. Reefs are really good at removing suspended sediment, both from the feeding/pseudofeces generation process and by slowing down flow. (DE DNREC)
- Crediting and Accounting for Pollutant Load Reductions
  - “Where in the progress run accounting will any reductions due to an oyster BMP be credited? That is, which pollution source sector? We have stated our position that oysters should not be used for compliance with Clean Water Act permits (i.e., the waste load allocation of the TMDL),<sup>6</sup> but could be, under limited circumstances defined by the Expert Panel be counted toward the load allocation. We ask that the proposal clarify that the proposed policy group should not be making recommendations about the use of oysters in Clean Water Act permits or nutrient trading, as these decisions should be made by the jurisdictions with broad stakeholder input, the opportunity for public comment, input from legal experts and EPA, etc. They should, however, give a recommendation for how (under what sector? Or a new category?) the oyster BMP should be counted and tracked toward progress toward the load allocation, as appropriate.” (CBF)
- Oyster BMP Verification and Crediting by Source Sector or New Category
  - “Develop a framework for the verification of an oyster BMP and associated accountability measures, and consider where oyster-related reductions due to an oyster BMP will be credited, i.e., which pollution source sector or new category.” (SELC)
- Small Nutrient Reductions in the Face of Greatly Expanded User Conflicts
  - “Question the both the realistic ability to grow and remove the incredibly large number of oyster necessary to meet even very small nutrient reduction percentages AND the user conflicts that would arise from putting that many oysters and cages into the Chesapeake Bay’s tributaries. Even at current levels of aquaculture operations, user conflicts have become quite heated in portions of Chesapeake Bay.” (SELC)

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<sup>6</sup> April 15, 2015 letter from Ann Jennings, CBF, to David McGuigan, U.S. EPA Region III.