

Final Feedback on Jurisdictions' Draft BMP Verification Program Plans

Prepared by the Chesapeake Bay Program Partnership's
BMP Verification Review Panel

September 4, 2015



Chesapeake Bay Program
A Watershed Partnership

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Background

Based on in-depth reviews of each of the jurisdictions' draft BMP verification program plans, submitted around the June 30, 2015 deadline, and an intensive two-day July 30-31 meeting, the Chesapeake Bay Program Partnership's BMP Verification Review Panel developed and published its initial feedback below on jurisdictions' draft BMP verification program plans, distributed to the Partnership and posted on-line on August 7, 2015. As a result of the Panel's one-on-one meetings with all six watershed states and the District of Columbia during its August 27-28, 2015 meeting, the Panel have generated this final feedback on the seven jurisdictions' draft BMP verification program plans.

Structure of this Panel Report

This report, developed by the BMP Verification Review Panel, provides additional feedback and recommendations to improve upon the jurisdictions' draft enhanced verification program plans beyond what was previously provided by the Panel in its August 7, 2015 report to the Partnership. This report clarifies the written feedback to the seven jurisdictions and records the discussions between each of the jurisdictions and the Panel during the August 27-28 meetings.

August 27-28, 2015 Panel Meeting

The BMP Verification Review Panel met one-on-one over the course of two days (August 27-28) in Annapolis, Maryland with each of the jurisdictions. The purpose of these jurisdictional representatives/Panel meetings were to review the Panel's detailed evaluations of the jurisdiction's draft verification program plans and answer questions from the jurisdictions. The following Panel members participated in the two-day meeting:

- Dana York, Chair
- Curtis Dell
- Mike Gerel
- Tim Gieseke
- Rebecca Hanmer
- Dianna Hogan
- Tom Simpson
- Rebecca Stack
- Robert Traver

Two-hour blocks of time were devoted to each state meeting with the Panel, with the District meeting with Panel only lasting an hour. Only representatives from that specific jurisdiction met in person, via videoconference, or via conference call with the Panel members to ensure candid,

in-depth discussions could occur between each jurisdiction and the Panel. This Panel report to the Partnership provides a public record of each of those seven jurisdiction/Panel meetings.

Summary of the Panel’s Feedback Across Jurisdictions

During its July 30-31 meeting, the Panel developed a color code-based illustration of its evaluation of each jurisdiction’s draft sector verification protocols and procedures. The resultant chart was published in the Panel’s August 7, 2015 report to the Partnership. During the course of the August 27-28 meetings with each of the seven jurisdictions, the Panel made two changes to the previously published chart (Table 1). The Panel changed the District of Columbia’s wetlands sector box from “?” to red given confirmation from George Onyullo (DC DOEE) that the District plans to report wetlands restoration acreages in the future like they have done in the past. The Panel also changed New York’s agriculture sector box from red to yellow given New York’s recent submission of a revised draft document describing their agricultural verification protocols.

Table 1. Summary of the BMP Verification Review Panel evaluations of jurisdictions’ July 2015 draft BMP Verification Program Plans by the six sectors, updated September 4, 2015.

	DE	MD	WV	VA	PA	NY	DC
Agriculture							NA
Forestry							
Stream Restoration							
Urban Stormwater							
Wastewater							
Wetlands							
KEY:		= Predominately consistent with the Partnership’s Sector Guidance and Verification Principles published in the Chesapeake Bay Basinwide BMP Verification Framework.					
		= Notable gaps and some inconsistencies compared to Sector Guidance. Jurisdictions must fill gaps in order to be in agreement with Sector Guidance and Verification Principles.					
		= Inadequate or does not follow Sector Guidance or meet many Verification Principles. Missing substantial amounts of information or may need to change approach.					

Key

NA – No agricultural lands within the District of Columbia.

The Panel recommends that the U.S. Environmental Protection Agency, on behalf of the Partnership, continues to use and update the above color coded chart to illustrate the progress by the jurisdictions in enhancing their current draft BMP verification program plans.

Completing the Partnership's Charge to the Panel

With completion of their August 27-28 meeting, the Panel will have completed their collective charge and will not meet again. Panel members will continue to make themselves available for further consultations with individual jurisdictions on an as requested basis up through the November 16th deadline for the jurisdictions' submission of their revised BMP verification program plans.

Dana York, Panel Chair, will present the Panel's bigger picture finding and recommendations to the Partnership at the September 30th Management Board meeting and the October 16th Principals' Staff Committee meeting as called for in the Panel's charge and the Partnership's verification schedule. With these two briefings and submission of the Panel's final report, the Panel will have completed its charge from the Partnership and will officially sunset after 3 years of work.

The Panel's Final Jurisdiction-Specific Feedback from the August 27-28 Meetings

Delaware

Panel Meeting with Delaware

On the videoconference:

Marcia Fox, Delaware Department of Natural Resources and Environmental Control/CBP Verification Committee member

James Gregory, Delaware Department of Natural Resources and Environmental Control

Eugenia Hart, Tetra Tech contractor

Tyler Monteith, Delaware Department of Natural Resources and Environmental Control

Bob Palmer, Delaware Department of Natural Resources and Environmental Control

Sharon Webb, Delaware Department of Natural Resources and Environmental Control

Overall

The Panel complimented Delaware on their well organized, clearly documented draft BMP verification program plan.

The Panel encouraged Delaware to use their verification documentation to also articulate their resource needs in order to carry out the verification protocols and procedures described within their BMP verification program plan.

Agriculture

The Panel pointed out that Delaware did not document any verification protocols for non-cost shared practices.

Sussex County and the Delaware Department of Agriculture has been actively tracking and reporting non-cost shared practice. Delaware has not had time yet to document verification protocols for non-cost shared practices but plans to do so.

The criteria for selection of sub-sampling percentages was not documented.

Delaware asked the Partnership's Statistical Sampling Design Review Team for their advice on what would be the appropriate level of sub-sampling for verification of nutrient management plans.

Delaware asked that the Statistical Sampling Design Review Team better understand the CTIC methodology being used by Delaware for accounting for their conservation tillage so they can be comfortable with the design for this use.

Delaware asked the Statistical Sampling Design Review Team for their advice on how to take the results from a comprehensive verification of all implemented BMPs from Delaware's assessment of Bucks Creek watershed and use those results in these surveys.

The Panel had questions about how Delaware plans to use the CTIC methodology for surveying cover crops when the methodology was originally designed to survey tillage.

The Statistical Sampling Design Review Team has expressed concerns about the 110 mile transects and 460 samples selection by Delaware and its lack of relationship to the relative acreages of cropland compared to total land areas.

Delaware described in detail for the Panel their work underway to pilot verification of cover crops using the CTIC methodology using repeated surveys in December, March and June timeframes and collecting different sets of data related to timing of planting, method of planting, type of seed, and whether it's a commodity crop or traditional cover crop over the series of surveys. Delaware is working to develop methods for determining whether there was fall fertilizer application.

The Panel reminded Delaware to carefully review with NRCS how NRCS is making their decisions about the selection of their 5 percent spot checks to ensure those decisions are consistent with Delaware's BMP verification objectives.

Forestry

The Panel appreciated how Delaware had organized the Forestry protocol, bringing together the agriculture and urban forestry practices in the way recommended by the Forestry Workgroup, and informed Delaware that states would also be receiving comments from the Forestry WG Coordinator that are similar to the Panel's concerns.

The Panel's principal concern was with Delaware's verification of riparian forest buffers, especially the follow-up spot checks. As the state task forces for the Partnership's RFB Initiative have identified problems with buffer maintenance, the forestry verification guidance seeks to ensure that the state's verification procedures are structured toward helping the state identifying and addressing maintenance issues.

Delaware DNREC has a staff person funded by CREP devoted to inspection of the riparian forest buffers in addition the inspections carried out by NRCS personnel.

The Panel complimented Delaware's urban forestry work; Delaware will be working with its CBP forestry colleagues on improved tracking procedures, as part of the work plan process for the Tree Canopy Management Strategy.

Delaware has a strong protocol on forest harvesting BMPs.

Stormwater

The Panel was pleased to see the 3-year inspection cycle as well as every three year review of Delaware's overall stormwater program.

The Panel asked that post construction inspections conducted by the owners also require an independent check on those inspections—some level of validation.

The Panel noted that other jurisdictions are considering risk in setting priorities for follow up inspections.

The Panel raised questions about the role of homeowner associations and their responsibilities in following through on inspections.

Delaware notified the Panel that this September will be the first time when MS4s will be defined for Delaware's portion of the Chesapeake Bay watershed. The Panel affirmed that it's more important to focus on their existing programs.

Stream Restoration

The Panel asked Delaware to address what occurs after initial 5 years of inspections and spot checks.

The Panel asked Delaware to address function, not just presence in developing and implementing its stream restoration verification protocols.

The Panel asked Delaware to ensure they provided answers to the all stream restoration review evaluation questions in Appendix A page 51 of the Panel's August 7th report to the Partnership in their revised stream restoration verification protocol documentation.

Wastewater

The Panel asked Delaware to review and answer the applicable wastewater treatment evaluation review questions contained within Appendix A on page 51-52 in the Panel's August 7th report to the jurisdictions in their revised wastewater verification protocol documentation.

The panel recommended that Delaware include a description of what Delaware is currently doing now in terms of verification/inspection and what Delaware plans to do.

Wetlands

No new concerns raised in discussion with Delaware beyond what was communicated in the Panel's August 7th report to the Partnership.

Delaware expressed concerns about the possible consideration of combining the wetlands land use into the forest land use in the Partnership's Phase 6 Watershed Model.

District of Columbia

Panel Meeting with the District of Columbia

On the phone: George Onyullo, District of Columbia Department of Environment and Energy/CBP BMP Verification Committee member

Overview

The District asked to re-submit a revised draft BMP verification program plan for review and comment prior to the November 16th deadline.

The Panel responded that at the end of the August 27-28th meeting, the Panel will not meet again so the Panel as a whole will not be available for any additional reviews, but individual Panel members will still be available for consultation in the coming two months. The EPA Chesapeake Bay Program Office will be available to ensure the District's revised draft BMP verification program plan is reviewed in time to provide comments for the District's use prior to the November 16th deadline.

Agriculture (Not applicable)

Forestry

The Panel noted that the District's draft protocol showed urban tree planting information coming from District agencies and non-governmental organizations (NGOs), and asked that the District show how this was coordinated and verified. Consult the forestry verification guidance for urban forestry practices.

The Panel wanted to ensure the District is keeping aware of the work underway through the Tree Canopy Expert Panel and continues active participation in workplans under the Tree Canopy Management Strategy which will have implications for verification of urban tree canopy and urban tree plantings.

Stream Restoration

The Panel asked for more specificity of the size of the event that would prompt re-inspection of stream restoration projects.

The Panel asked the District to ensure they provided answers to the all stream restoration review evaluation questions in Appendix A page 51 of the Panel’s August 7th report to the Partnership in their revised stream restoration verification protocol documentation.

Urban Stormwater

Difficult to understand everything this has been documented—the Panel recommended breaking out some of the information into a table format.

The Panel recommended building in a system for ‘checking the checkers’, a periodic review of the District’s inspection program.

The Panel asked the District to document the distinction between regulated sites and retrofit sites in terms of their stormwater verification procedures.

Wastewater

The Panel asked whether the District is depending on nutrient load reductions from the District’s long term control plan and whether those reductions are being accounted for through the Blue Plains discharge monitoring reports.

In dealing with green infrastructure on the scale envisioned in the District’s revised long term control plan, the District is questioning whether the Partnership’s basinwide BMP verification framework is actually suitable for verification at this scale.

Wetlands

If the District is planning to report any wetlands restoration projects at any acreage, the Panel recommended the District provide answers to the series of wetlands restoration evaluation review questions found on page 52 of the Panel’s August 7th report to the Partnership in their revised wetlands verification protocol documentation.

The District confirmed that they have reported on wetland restoration acreages in the past and they plan to do so into the future.

Maryland

Panel Meeting with Maryland

In person:

Greg Sandi, Maryland Department of the Environment/CBP BMP Verification Committee member

Paul Emmart, Maryland Department of the Environment

Jason Keppler, Maryland Department of Agriculture

Mark Sievers, Tetra Tech

Kathy Steker, Maryland Department of the Environment

Overview

The Panel strongly recommended Maryland review other jurisdictions' draft verification program plans for good examples of how to present protocols in solid, yet concise documentation. The Panel specifically recommended Maryland look at Pennsylvania's format/content for straightforward, concise narrative.

Maryland receives a lot of practice data from a multitude of sources—they asked for the Panel's input on what the expectations are for verification from these multiple sources.

Agriculture

The Panel was very pleased with the level of draft agriculture BMP verification documentation, which closely followed the Partnership's Agriculture Workgroup verification guidance.

The Panel asked Maryland to provide more documentation on their nutrient management plan verification procedures.

Maryland is not applying any sub-sampling procedures in any of their verification procedures, as they are focused on 100 percent verification.

Forestry

The Panel asked that Maryland pull their riparian forest buffers verification procedures from their agricultural section and place into them into Maryland's forestry section.

The Panel asked Maryland to reflect the Partnership's Forestry Workgroup verification guidance recommendations for additional follow-up checks in their revised BMP verification program plan. Specifically, the Panel asked Maryland to follow the forestry guidance's science-based recommendations that the initial on-site inspection be followed with a site check within 2-4 years to confirm that the buffer is successfully established, or that maintenance is performed to bring the buffer back to standard, and then transition to a statistical sub-sampling based system of spot checks with a focus on buffers of higher risk for failure. As the buffer nears end of contract, a site visit is recommended to encourage buffer retention through re-enrollment, easement or voluntary retention.

Maryland said that the Partnership has different protocols between the Forestry Workgroup and the Agriculture Workgroup. In Maryland, they use NRCS verification procedures. Adopting the Forestry Workgroup's verification protocol for use in Maryland will require significantly more resources to conduct the additional follow up inspections.

Maryland asked if the other states were following the Forestry Workgroup verification guidance or committed to within the draft BMP verification program plan.

The Panel responded that a number of the other jurisdictions were not currently fully following the Forestry Workgroup verification guidance, particularly in regard to the additional follow-up inspections, but that they had recommended all jurisdictions do so.

The Partnership's newly-adopted Riparian Forest Buffer Management Strategy is focusing on better interagency coordination and resources to increase forest buffers. Maryland can evaluate partnerships and other ways to increase BMP verification and maintenance through the biennial workplan now being developed under this strategy.

Regarding other forestry practices, Maryland submitted a plan dated from 2011. This plan did not address urban tree canopy nor reflect the Partnership's recent work on the Tree Canopy Management Strategy and the Urban Tree Canopy expert panel.

Maryland would like the report urban tree canopy/tree planting data provided by their counties—the Panel agreed as long as the state has a system in place for ensuring the state agencies understand the counties' verification protocols and they are consistent with the state's program. The forestry verification guidance provides recommendations on crediting and verification of urban tree planting and riparian buffers. Maryland can take advantage of its biennial workplan for the Tree Canopy Management Strategy to develop its tracking and verification of urban forestry practices as soon as possible.

The Panel understands that Maryland Department of Natural Resources has begun its new study of BMP implementation for timber operations, in order to update its protocol for forest harvesting verification as recommended by the CBP Forestry Workgroup guidance.

The Panel stated that the Basinwide BMP Verification Framework also provides guidance the states need to aim high or explain why.

Stream Restoration

The Panel asked Maryland to review and answer the applicable stream restoration evaluation review questions contained within Appendix A on page 51 in the Panel's August 7th report to the jurisdictions in their revised wetlands restoration verification protocol documentation.

The Panel emphasized the need to focus on verifying functionality, not just presence.

Maryland questioned how one goes about verifying functionality for stream restoration, particularly for practices like regenerative stream conveyances which are strictly built to retain flow.

Maryland raised concerns about, with the lack of federal funds for stream restoration projects, how Maryland can ensure there is collection of needed verification data.

The Panel agreed with the need for ensuring the various funding sources for stream restoration projection require the collection of the data and information needed for verification.

Maryland made the point that all these new asks for verification will require new staff resources and that the state will need certified inspectors providing the state with assurance that those verification efforts have been carried out in the way consistent with Maryland's verification program.

Urban Stormwater

Maryland is planning 100 percent verification for all urban stormwater practices on a 3 year basis in order for a practice to be reported.

The Panel asked for documentation on the state's plans for evaluating the MS4s programs and ensuring those inspections are consistent with Maryland's BMP verification program.

The Panel asked if Maryland are using the same verification protocols for all stormwater practices reported under Phase II MS4s and non-regulated stormwater.

Wastewater

The Panel asked for documentation that would address the wastewater evaluation review questions listed in Appendix A and pages 51-52, and providing links to the more detailed documentation.

The Panel asked to be sure that Maryland also address verification for non-significant facilities which are seeking credit for nutrient load reductions.

Wetlands

The Panel asked Maryland to review and answer the applicable wetlands evaluation review questions contained within Appendix A on page 50 in the Panel's August 7th report to the jurisdictions in their revised wetlands restoration verification protocol documentation.

The Panel recommended Maryland follow Table 8 within the Basinwide BMP Verification Framework on page 34 as the format for presenting the sector specific BMP verification protocols and procedures.

New York

Panel Meeting with New York

On the phone:

Ben Sears, New York State Department of Environmental Conservation/CBP BMP Verification member

Amanda Barber, Upper Susquehanna Coalition/Cortland County Soil and Water Conservation District

Wendy Walsh, Upper Susquehanna Coalition/Tioga County Soil and Water Conservation District

Overall

The Panel strongly encouraged New York to review several other jurisdictions' draft BMP verification program plans, particularly Delaware and Pennsylvania, for ideas for the level and format of documentation for New York's revised BMP verification program plan.

Agriculture

The Panel asked New York to expand the discussion of how New York is handling verification of annual practices, particularly in terms of what they are going to sample and how they plan to go about the sub-sampling after the initial on-site verification.

The Panel asked for more documentation of New York's plans for verification of nutrient management plans.

The Panel asked if New York was going to use the resource improvement practices, particularly for tracking buffers that are narrower than allowed by NRCS/FSA and the Chesapeake Bay Program partnership's BMP definition.

New York has some existing tools for verifying non-cost shared practices that they need to consider beyond strictly adopting the Chesapeake Bay Program Partnership's resource improvement practices recommended protocols developed specifically for Maryland.

The Panel agreed with New York request for taking a different approach to tracking, verifying and reporting on non-cost share practices which is more tailored to their ongoing Agriculture Environmental Management or AEM program. The Panel did point out that New York needs to adopt and use the life spans agreed to by the Chesapeake Bay Program partnership's Agriculture Workgroup for resource improvement practices.

New York needs to better describe the actual verification methodology for carrying out the verification as summarized in Table 2 of New York in their supplemental "Statistical Sampling Approach for Follow-up Agricultural BMP Verification".

The Panel really liked the description of the planned statistical approach for follow-up sub-sampling in their supplemental documentation of agriculture verification procedures.

New York is thinking about a follow up farmer survey, building on their focus on on-site visits and only reporting what they are visually seeing. The Panel encouraged New York to look at Maryland's annual farmer survey for ideas.

New York has built their program by building relationships with each and every farmer they are working with. The Panel responded positively, adding that New York needs to ensure the farmers really understand what the state is asking for and allow for time to ensure the entire population of farmers are providing the information the state is seeking.

The Panel really liked New York's adaptive management section of their supplemental document—no other state has addressed this.

The Panel is already actively sharing New York’s supplemental “Statistical Sampling Approach for Follow-up Agricultural BMP Verification” with other jurisdictions as a great example of how to simply document the rationale behind choices being made about the design of statistically-based sub-sampling surveys.

Forestry

The Panel asked that New York move its verification protocols for riparian forest buffers from their agriculture section of their BMP verification program plan to the forestry section.

The Panel asked that New York place emphasis on following the Forestry Workgroup’s verification guidance, particularly the recommended follow-up site visits to ensure the buffer is maintained over time.

The Panel asked that New York develop a set of urban tree planting and urban riparian buffer verification protocols reflective the Forestry Workgroup’s verification guidance and consistent with the forthcoming Urban Tree Canopy BMP Expert Panel report and the Urban Tree Canopy Management Strategy. [New York partners should directly contact Sally Claggett, Chesapeake Bay Program Forestry Workgroup Coordinator/U.S. Forest Service for more information on both of these ongoing efforts within the Partnership.]

Given the high reliance on tracking and reporting forest harvesting practices for getting nutrient and sediment pollutant loading reduction credit, the Panel asked that New York submit verification protocols for forest harvesting practices.

New York recognized they needed to at least be documenting verification for erosion and sediment control practices for forest harvested areas and BMP implementation on public forests.

New York is not prioritizing BMPs, they are focused on all BMPs on their farms with 100 percent initial inspections for all tracked and reported practices.

The Panel asked New York to document if they have practices for which they will not have specific verification protocols developed by the November 16th submission deadline. The Panel asked that New York provide a schedule and plans for when these verification protocols will be developed and submitted to EPA.

The Panel asked that New York specifically document that they don’t report a riparian forest buffer until it’s clearly established.

Stream Restoration

New York is working on a stream restoration verification protocol as they have been tracking stream restoration practices and projects but have not yet reported stream restoration to the Chesapeake Bay Program partnership. New York is working to ensure its larger BMP tracking and reporting data base can receive stream restoration data.

The Panel asked New York to review and answer the applicable stream restoration evaluation review questions contained within Appendix A on page 50 in the Panel’s August 7th report to the jurisdictions in their revised stream restoration verification protocol documentation.

Urban Stormwater

The Panel pointed out that hiring a local inspector for conducting stormwater inspections needs to be balanced with documentation of some type of oversight of those local inspectors.

The Panel asked that New York provide clear documentation of the post construction inspections and planned follow up actions.

New York's stormwater management program revolves around their state construction general permit and the related inspection program.

The Panel asked for a more specific description of the schedules for MS4 inspections.

Wastewater

New York's CSOs would fall under the state wastewater treatment regulatory program.

New York does not have any plans to track and report septic systems/on-site treatment systems at this time, but might consider doing so in the future since their county health departments do collect this data already.

Wetlands

The Panel asked New York to emphasize functionality as well as strictly presence.

The Panel asked New York to review and answer the applicable wetlands evaluation review questions contained within Appendix A on page 52 in the Panel's August 7th report to the jurisdictions in their revised wetlands verification protocol documentation.

New York ensures on-site verification of all wetland restoration projections, regardless of the funding source.

Pennsylvania

Panel Meeting with Pennsylvania

In person:

Andy Zemba, Pennsylvania Department of Environmental Protection/CBP BMP Verification Committee member

On the phone:

Karl Brown, Pennsylvania Conservation Commission

Ron Furlan, Pennsylvania Department of Environmental Protection

Ken Muren, Pennsylvania Department of Environmental Protection

Steve Taglang, Pennsylvania Department of Environmental Protection

Jill Whitcom, Pennsylvania Department of Environmental Protection

Overall

Pennsylvania provided one of the best draft BMP verification program plans in terms of readability.

The Panel encouraged Pennsylvania to reach out and use others to help carry out their verification efforts as long as there are mechanisms in place to ensure these other groups understand the verification efforts they are carrying out.

The Panel encouraged Pennsylvania to use their revised program plan to also describe their resource needs in order to be successful. Maryland was cited as an example where they included an estimated number of new staff needed and the required level of funding to carry out this additional verification work.

Agriculture

Panel asked the Pennsylvania commit to sharing the results of their ongoing remote sensing pilot study, once available, with the Partnership's Agriculture Workgroup, Forestry Workgroup, and Water Quality Goal Implementation Team.

The Panel recognized that NRCS's initial inspection of all federally cost shared practices does provide the states with a rigorous level of verification of priority/lower priority practices. It's the follow-up spot checks and basis on which NRCS decides how its 5 percent sub-sampling is carried out that is concerning to the Panel. That 5 percent sub-sampling is not random in nature—the sub-sampling is often directed towards concerns that are of financial and risk of failure nature, not a focus on water quality.

The Panel agreed to raise Pennsylvania's request that NRCS consider changes to how it decides on its 5 percent sub-sampling so that the resultant follow-up spot checks could then also provide the states with verification protocols consistent with the states' needs.

Pennsylvania questioned why there were questions about use of the widely accepted CTIC methodology. The Panel responded that its concern was directed towards Pennsylvania's plans to use the CTIC methodology, designed for surveying tillage, for estimating cover crops.

Pennsylvania asked what the Panel's reaction to Delaware's protocol for using the CTIC methodology for cover crops as well. The Panel responded that they expressed similar concerns to Delaware.

In response to the Panel's question on how the results of the CTIC methodology will get translated into actual acres reported and submitted, Pennsylvania responded that they were following CTIC procedures.

Forestry

The Panel questioned whether Pennsylvania was reporting forest harvesting practices.

Pennsylvania stated it does report these practices for forest harvesting on state forest lands and will work to provide documentation of the verification procedures in its revised BMP verification program plan.

Pennsylvania is planning to include BMP verification procedures for urban tree planting and urban buffer practices in its revised BMP verification program plan.

The Partnership's Forestry Workgroup verification guidance asks for more focus on follow-up inspections, especially during the establishment period, to address gaps in inspections of USDA-funded buffers. The purpose is to assure that maintenance problems are found and addressed. The Panel asked Pennsylvania to work to refine its proposed verification procedures to be fully consistent with this verification guidance.

The Panel pointed out that interagency coordination and possible use of non-governmental organizations such as CBF were ways to seek resources to increase site visits according to the forestry guidance. Pennsylvania said it had good interagency coordination, but it understood the point of the recommendations.

Stormwater

The Panel asked Pennsylvania to be more specific about the specific inspection frequencies for MS4, post construction, and legacy BMPs in its revised BMP verification program plan.

Pennsylvania committed to providing more documentation on their stormwater verification protocols and procedures.

Pennsylvania raised questions about what to do about reported legacy stormwater practices, e.g., dry ponds, as Pennsylvania transitions the legacy practices to new stormwater management practices and approaches, e.g., bio-infiltration systems.

The Panel recognized the importance of this transition and challenged the Partnership to work through the Urban Stormwater Workgroup and Watershed Technical Workgroup to provide each of the jurisdictions with clear guidance on making this transition in tracking and reporting.

Pennsylvania questioned what was meant by life span in the post construction verification. The Panel responded that Pennsylvania needed to ensure they were verifying practices at the end of their life spans to confirm extending the life span and continue reporting and crediting of the practices.

The Panel recommended that if there is another entity carrying out the verification, the state needs to system for performing checks to ensure the program is being carried out properly by this non-state agency entity.

The Panel recommended Pennsylvania clearly document its procedure for removing practices which have gone beyond their life spans and either have not been verified or are determined to be non-functional.

Pennsylvania will document how they plan to address follow up on practices which are not functioning in other documentation, not in their BMP verification program plan. The Panel

concurrent with taking this approach, asking that Pennsylvania to provide a short narrative in their BMP verification program plan describing the procedures taken and then providing the reader with a URL link to document which actually describes the follow-up actions to be taken.

Stream Restoration

The Panel noted that stream restoration was missing from Pennsylvania's list of priority practices—does Pennsylvania plan to report stream restoration?

Pennsylvania confirmed that stream restoration is a high priority practice for Pennsylvania. Pennsylvania plans to use the verification protocols and procedures used in the Big Spring Run stream restoration project as its overall stream restoration verification procedures.

The Panel recommended to Pennsylvania that they provide answers to the series of stream restoration evaluation review questions on page 51 in Appendix A of the Panel's August 7th report to the Partnership within the stream restoration section of their revised BMP verification program plan.

Pennsylvania is following natural stream restoration designs in its stream restoration projects, including legacy sediments.

The Panel emphasized the need for focusing on functionality, not just presence of the practices.

Wastewater

Pennsylvania needs to determine how to best document verification procedures as they relate to their permitted discharge facilities without getting too deep into compliance procedures.

In terms of septic systems, hook-ups of septic systems to existing sewer systems are practices that Pennsylvania wants to continue to report and receive credit for into the future.

The Panel recommended that Pennsylvania add a short narrative statement about how significant facilities and non-significant facilities are tracked against the facility specific and aggregate waste load allocations and then providing a URL link to Pennsylvania's Watershed Implementation Plan supplement document.

Wetlands

The Panel emphasized the need for focusing wetlands verification on assessing functionality and ensuring that the functionality continues through time.

The Panel recommended to Pennsylvania that they answer the series of wetlands evaluation review questions on page 52 Appendix A of the Panel's August 7th report to the Partnership within the wetlands section of their revised BMP verification program plan.

Pennsylvania recognized they need to provide more documentation on their wetlands verification protocols. Majority of wetland restoration is conducted through regulatory mitigation work and NRCS funded wetland restoration projects.

Pennsylvania has concerns about just repeating NRCS protocols given that they do not have the exact locations of the wetlands being restored due to the lack of a 1619 data sharing agreement in place with Pennsylvania Department of Environmental Protection.

Pennsylvania asked for confirmation that the Panel is in support of Pennsylvania adopting NRCS's wetlands restoration verification protocols/procedures as-is, and getting full credit for those NRCS federally cost shared acres of wetland restored. The Panel concurred but only for this specific set of NRCS's BMP verification protocols and the given purpose for which NRCS conduct its verification protocols are compared with and determined to be consistent with Pennsylvania's verification needs and objectives.

Virginia

Panel Meeting with Virginia

In person:

James Davis Martin, Virginia Department of Environmental Quality/CBP BMP Verification Committee member

On the phone:

Dave Dowling, Virginia Department of Conservation and Recreation
Fred Cummingham, Virginia Department of Environmental Quality
Bill Keeling, Virginia Department of Environmental Quality
Dave Kindig, Virginia Department of Conservation and Recreation
Laura Kling, Virginia Department of Environmental Quality
Tim Sexton, Virginia Department of Conservation and Recreation

Overall

Virginia expressed concerns that the Panel was being sunset following the end of this meeting and that this action was inconsistent with the BMP Verification Committee's understanding of the Panel's schedule.

Virginia structured its entire BMP verification program based on the state and local agency programs which are driving the practice implementation work, thus, its draft BMP verification plan was structured by state/local agency programs as well.

Virginia has structured its verification program to build upon the initial inspection program already in place, but recognized it did not provide documentation of that initial inspection process in its draft BMP verification program plan.

Virginia's verification is going to be implemented through existing programs.

Virginia will not be structuring its verification efforts based on identification of priority BMPs.

Virginia is not currently reporting BMP implementation work by non-governmental organizations such as Trout Unlimited and Ducks Unlimited.

Virginia views verification as strictly for the purposes of tracking and reporting for crediting through the Chesapeake Bay Program partnership's models, not for the purpose of ensuring maintaining and making practices function better.

The Panel views verification as the Partnership has already defined verification—not strictly for crediting through models, but for addressing whether the practices are functioning as designed, providing the local and downstream water quality benefits, and providing a mechanism for identifying needs for practice maintenance and improvements to ensure continued functionality and crediting.

The Panel stated that, in its review of Virginia's draft BMP verification program plan, it is raising questions and points that others are likely to raise in terms of trying to understand the rationale behind Virginia's proposed BMP verification protocols.

Virginia stated clearly that it was striving for a resource neutral approach in designing its BMP verification protocols and programs, working to shift existing resources towards verification of practices with higher risks for failure and away from verification of practices with lower risks for failure.

Virginia recommended, and the Panel strongly agreed, that the Partnership will need to retain statistical sampling design technical support for access and use by the jurisdictions and other partners for the foreseeable future, beyond just the next two years during the 'ramp up' period.

Virginia posed a series of questions to the Panel:

- What is a reasonable level of confidence for use in designing statistical sub-sampling which is consistent with the accuracy of the CBP partnership models?
- Would the Panel share the individual evaluation forms to provide the jurisdictions? Virginia wanted access to any more specific comments that Virginia could use during their revision of their draft report.
- Can the Panel provide more specificity to which of the overall comments directed across jurisdictions would apply specifically to Virginia?

Virginia did not get any statistical design support in the process of developing their draft BMP verification program plan.

Agriculture

Virginia has documented a failure rate of up to 0.2-3 percent for their cost share practices.

The Panel stated that the data supporting such extremely low failure rates need to be clearly documented and confirmed given these rates are well below rates reported by any of the other six watershed jurisdictions.

The Panel expressed concerns that Virginia was removing opportunities for technical assistance and compliance assurance. By reducing the number of farm on-site visits from the current rate of 5 percent to 1 percent, the Panel was concerned that Virginia could be increasing the level of non-compliance by reducing technical assistance/compliance assurance opportunities.

Virginia is planning to move its inspection efforts away from practices with very low failure rates (state and federal cost share practices) towards practices being implemented at a higher risk (non-cost share practices).

Virginia emphasized that they plan 100 percent on-site visits for all structural BMPs.

The Panel is asking Virginia to more clearly document their rationale for the selection of their return spot checks percentages.

The Panel is concerned that with the lack of transparency of the agricultural practice data, Virginia is basing the design of its sub-sampling on data which will never be transparent to the public.

The Panel expressed concern that the 1 percent sub-sampling is based on a population of all BMPs, some of which may be more at risk for failure compared with others—the 1 percent design does not consider these different BMP risk rates.

The Panel asked Virginia to consider New York’s approach to agriculture verification as documented within their draft “Statistical Sampling Approach for Follow-up Agricultural BMP Verification”. The Panel directed Virginia’s attention to how New York provided clear narrative descriptions of the choices they made in their use of statistical-based sub-sampling designs.

The Panel will ask the Statistical Sampling Design Review Team to specifically review the sub-sampling design approach proposed by Virginia and the assumptions made by Virginia.

In summary, the Panel was reacting to Virginia’s proposal to pool all of its agricultural practices, without regard to their individual risks for failure, dropping their sub-sampling rate from 5 percent to 1 percent, and how these contrasted significantly with the agricultural BMP verification approaches proposed by the other five watershed states.

Forestry

The Panel stated that Virginia’s proposed verification protocols do not meet the Partnership’s Forestry Workgroup verification guidance. The Panel requested that Virginia organize all its protocols for forestry practices in the forestry section, even though information may be received from more than one state agency or source.

In particular, the Panel said that Virginia’s statistical sub-sampling protocol for cost-shared agricultural practices, which includes riparian forest buffers and agricultural tree planting, did not meet the CBP Forestry Workgroup verification guidance for buffers. Virginia questioned whether the first follow-up visit was actually needed so soon after the initial on-site visit to confirm planting.

The Panel pointed out that the Forestry Workgroup coordinator's comments on Virginia's BMP verification protocols referred to Virginia Department of Forestry's (DOF) follow-up site visits to forest buffers as exemplary. DOF apparently makes three follow-up site visits to assure that maintenance problems are identified and corrected during the establishment period, and has provided technical assistance to farmers. Virginia should recognize the value of DOF's technical assistance for verifying that forest buffers are functioning, and include it in the protocol.

The Panel recommended Virginia continue active participation in the ongoing work on the Tree Canopy Management Strategy, which will include improved tracking and verification of urban tree planting and riparian buffers, and keep aware of the work of the Urban Tree Canopy Expert Panel.

Virginia stated that until tree canopy is approved by the Chesapeake Bay Program partnership as a BMP, Virginia will not list it in their BMP verification program plan.

Responding to the Panel's point that Virginia's forest harvesting control program is strong and includes follow-up visits after harvesting is completed, Virginia questioned the need to include follow-up inspections of forest harvesting BMPs in its protocol given how the Partnership's Chesapeake Bay Watershed Model handles this practice.

Stream Restoration

Virginia is planning to report stream restoration practices either as an agriculture and urban BMP. Virginia believes it covered these practices within its draft submission.

The Panel emphasized the need to measure functionality not just presence of the practice in the documentation of Virginia's stream restoration verification procedures.

Virginia expressed concerns that functionality is not part of the BMP definition for stream restoration.

The Panel disagreed, stating that it's the functionality of stream restoration which gives it the ability to retain or naturally remove (e.g., denitrification) nutrients from the stream system.

The Panel asked Virginia to provide the reader with a narrative description of, and URL links to where the reader can find Virginia's more detailed stream restoration verification protocols.

Virginia's plans for 1 percent follow inspection for stream restoration as an urban practice is inconsistent with the Partnership's Stream Health Workgroup's stream restoration verification guidance as well as federal permit related monitoring requirements.

Urban Stormwater

The Panel asked for Virginia to document their oversight of the local inspectors.

The Panel questioned what Virginia plans to "inspect" urban nutrient management and the actual certified applicators and asked for further documentation on what was meant here.

The proposed BMP verification program plan states that stormwater practices "last forever"—the Panel questioned how Virginia ensures this is the case through their re-inspection efforts.

The Panel asked that Virginia document the process for removing practices where are found to not be operating or abandoned as well as the process followed for getting the practice corrected and then re-reported.

The Panel recommended Virginia add the underlying land use associated the reported BMPs as that information can be used into the future in helping refine the life span.

Wastewater

The Panel asked that Virginia provide answers to the series of wastewater evaluation review questions found on pages 51-52 of the Panel's August 7th report to the Partnership in their revised wastewater verification protocol documentation.

Wetlands

The Panel emphasized the need to verify continued functionality, not strictly presence of restored wetlands.

The Panel recommended Virginia work with a number of non-governmental organizations who are actively restoring wetlands.

The Panel asked Virginia to review and answer the applicable wetland restoration evaluation review questions contained within Appendix A on page 52 in the Panel's August 7th report to the Partnership in their revised wetlands restoration verification protocol documentation.

The Panel asked that rather than just listing wetland restoration as a practice in the agricultural and urban tables, Virginia provide a narrative description of how they plan to carry out verification and, where appropriate, provide links to more detailed documentation.

West Virginia

Panel Meeting with West Virginia Colleagues

In person:

Matt Monroe, West Virginia Department of Agriculture/CBP BMP Verification Committee member

Carla Hardy, West Virginia Conservation Agency

Alana Hartman, West Virginia Department of Environmental Protection

On the phone:

Dave Montali, West Virginia Department of Environmental Protection

Sebastian Donner, West Virginia Department of Environmental Protection

Herb Peddicord, West Virginia Department of Forestry

Cindy Shreve, West Virginia Department of Agriculture

Overall

The Panel recognized the good work by West Virginia on developing their draft BMP verification program plan.

West Virginia asked if there was the need re-run a series of model analyses to further document the basis for their decisions regarding the priority practices are that will receive higher levels of verification compared with lower priority practices which will receive verification with lower levels of rigor.

The Panel recommended against conducting additional analyses to quantify the exact percentages of the contributions of each of the practices to their Watershed Implementation Plan reduction commitments. The Panel recommended West Virginia use their revised verification program plan provide documentation about West Virginia's choices on priority versus non-priority practices based on West Virginia's program managers' current understanding of program implementation.

The Panel recommended West Virginia provide documentation for verification protocols for lower level priority practices that are less rigorous than verification procedures for priority practices, even for practices which may not be ready for reporting but West Virginia will likely report in the near future.

West Virginia expressed an interest in getting more advice and guidance from the Statistical Sampling Design Review Team up to when they submit their revised draft BMP verification plan in November as well as during the two year ramp up period in 2016-2017.

Both West Virginia and the Panel wanted help from Statistical Sampling Design Review Team on how to best interpret the results of sub-sampling, apply them back to the overall population of BMPs, and how the state would then translate that information into how many BMPs should end of being reported by county/watershed.

Agriculture

The Panel asked West Virginia to clarify statements about only working with "willing land owners" and how that could affect the design of their agricultural verification protocols.

West Virginia's agricultural programs are entirely voluntary with the exception of the state's CAFO regulatory program which is required by federal law.

The Panel recommended West Virginia document, up front, the percentage of farms which are regulated, as well as the percentage of the farms that have implemented federal cost shared practices so the public can understand the population of farmers covered by West Virginia's verification program.

The Panel recommended West Virginia recognize, up front, in their revised BMP verification program plans that the sample of farms they are covering with their verification program is skewed because of the focus on "willing land owners."

West Virginia has very limited state cost shared programs which are operated out of the conservation districts—the best example is cover crops as it’s one of largest cost shared programs.

West Virginia Department of Forestry is actively working with land owners and reviewing CRP/CREP funded riparian forest buffers.

The Panel recommended providing more descriptions of what West Virginia has in place in terms of state agency and conservation district staff actively working with producers and going out on the farms of “willing landowners.” It’s important for future audiences to better understand the level of interaction and engagement with farmers now happening in West Virginia’s Potomac River watershed.

West Virginia asked about CTA and how that fits into reporting on BMPs.

The Panel recommended West Virginia follow up directly with their NRCS West Virginia State Office colleagues to get a better understanding of what exactly is being reported as CTA in West Virginia. The Panel also recommended West Virginia speak further with Olivia Devereux (Devereux Environmental Consulting) about her work with NRCS and USGS evaluating CTA data from all six states.

The Panel emphasized the need for West Virginia to work directly with NRCS to understand how NRCS is selecting their 5 percent of farmers for spot checks and determine whether and how this methodology matches up with West Virginia’s objectives for BMP verification.

West Virginia asked about independent, 3rd party verifiers and to what extent the Panel saw the need for West Virginia to use them.

The Panel referred West Virginia to Maryland’s plan for a separate five member team which will be housed within the conservation districts, and will be responsible for identifying BMPs eligible for re-verification and performing in-field evaluations of the practices, as a working example of an independent verifier. A periodic program review by an independent party is also another example for West Virginia to consider.

The Panel emphasized that independent reviews (within the same organization, but separate from the program) are different from external reviews (from a separate organization) as described in the Partnership’s Basinwide BMP Verification Framework document.

Does the Panel has specific ideas for nutrient management verification given all of West Virginia’s programs are voluntary beyond permitted CAFOs?

Panel recommended, at a minimum, that West Virginia needs to ensure updates are made to the existing plans every three years.

West Virginia confirmed that the state does certify its nutrient management planners.

Forestry

The Panel recommended that West Virginia's riparian forest buffers verification protocols be moved from the agriculture section to the forestry section of their BMP verification program plan.

West Virginia's final riparian forest buffers practices verification protocols need to follow the Partnership's Forestry Workgroup verification guidance. As West Virginia is actively participating in the Riparian Forest Buffer Management Strategy implementation, this could be a venue for seeking further partnerships and resources to increase buffer inspection.

The Panel complimented West Virginia's BMP verification protocols for urban forestry and forest harvesting.

The Panel asked if exclusion of livestock from stream access will lead to increases in riparian forest buffers and should West Virginia plan to verify and report these additional acres.

Stream Restoration

The Panel's biggest concern was what happens 5 years after the stream has been restored in terms of verification.

The Panel encouraged West Virginia to look at the Delaware's stream restoration verification protocol as an example to follow in terms of post 5-year verification.

The Panel recommended West Virginia put more emphasis on measurement of functionality, not just presence of the stream restoration project itself, as called for in the Partnership's Stream Health Workgroup's stream restoration verification guidance.

The Panel recommended that West Virginia's documentation for stream restoration verification include the answers to the stream restoration evaluation questions listed on page 51 of the Panel's August 7, 2015 report to the Partnership.

The Panel recommended that if a jurisdiction can't do something or doesn't plan to address something, then to please explain that clearly so the reader understands why it hasn't been addressed.

Urban Stormwater

The Panel recognized that West Virginia provided good documentation and tables, but the Panel still has some questions about how it all fit together.

The Panel asked West Virginia to address the differences between the description of the existing MS4 program and its requirements and the text on specific verification procedures.

The Panel pointed out that a subsampling plan is needed for post-performance inspections.

West Virginia asked whether they can use education and certification programs, which result in implementation of practices like rain gardens and other home owners' practices as their method of ensuring verification. The Panel agreed.

West Virginia would like to report practices which are only minimal pollutant value—they asked what level of verification is required for such practices.

The Panel responded that the Partnership’s basinwide verification framework and the sector workgroup’s verification guidance does not provide that level of detailed guidance. The Panel recommended West Virginia propose a verification approach that gives the state the level of confidence that the practices have been implemented and are operating correctly, and to seek EPA’s approval based on their rationale and documentation.

West Virginia asked for the Panel’s support of the concept of developing watershed-wide certification program guidelines agreed to by all the states for those involved in inspection or other verification protocols. This would ensure consistency across all the states and that everyone understood was the rules were.

The Panel recommended West Virginia err on the side of recognizing and including documentation of verification protocols for those practices that are not reported now, but which West Virginia might be interested in verifying and reporting in the near future.

The Panel strongly encouraged West Virginia to consider relying on other possible verifiers—citizen groups for urban practices, self-reporting by farmers, manure transporters—as long as there is training involved and these verifiers understand what they are being asked by the state to report out.

Wastewater

In response to the Panel’s questions as to whether there are any CSOs in their Potomac River watershed, West Virginia answered that there are 3-4 communities with small CSOs but they are very minor in terms of overflows. West Virginia’s WIP covers these and they will be referenced in their revised BMP verification program plan.

The Panel recommended West Virginia describe their verification protocols for septic systems in the revised verification plan to ensure West Virginia can get credit into the future, for either new installations with new developments and septic system hook ups to sewer systems, which they report currently.

West Virginia does not anticipate any significant number of denitrification on-site treatment systems being installed in the coming years.

The Panel commended West Virginia for their documentation of the status of when their permitted facilities had upgraded their treatment levels.

Wetlands

The Panel recommended that West Virginia’s documentation for wetlands verification include the answers to the wetlands evaluation questions listed on page 52 of the Panel’s August 7, 2015 report to the Partnership.

The Panel recommended West Virginia follow the monitoring requirements under federally funded programs like Wetlands Enhancement Program as their guide as recommended in the Partnership's Wetlands Workgroup verification guidance.

West Virginia is planning to work with groups like Trout Unlimited to determine their interest in following through on verification beyond the 5 year time horizon to ensure the restoration work can continue to be reported and credited. The Panel strongly supported this approach and recommended getting this documented within West Virginia's revised BMP verification program plan.