Strengthening Verification of Best Management Practices Implemented in the Chesapeake Bay Watershed:
A Basinwide Framework

Report and Documentation from the Chesapeake Bay Program
Water Quality Goal Implementation Team's
BMP Verification Committee

October 2014

Chesapeake Bay Program
Science. Restoration. Partnership.

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Executive Summary

Stakeholder groups, communities and people across the 64,000 square foot Chesapeake Bay region must have confidence that there is strong science behind the Chesapeake Bay "pollution diet" (known as the Total Maximum Daily Load or TMDL) and each jurisdiction's strategy (called a Watershed Implementation Plan or WIP) for putting practices in place to meet nutrient and sediment reduction goals. In order to foster this confidence, the Chesapeake Bay Program (CBP) partners' work must be open and transparent for all interested parties.   We must also be fully responsive to calls by the Chesapeake Executive Council, CBP's Citizens Advisory Committee, and Scientific and Technical Advisory Committee, and groups such as the National Academy of Sciences and mandates under the federal Executive Order—all of which demand improvements in the transparency and scientific rigor of our efforts. While our attention must be given to the tracking and crediting of the diverse technologies, treatment techniques and best practices intended to reduce the flow of nutrients and sediments to our waters, we must also be vigilant in our efforts to verify that these practices, known as 'best management practices" or BMPs, are working and continue to work properly.   This document provides a detailed framework by which the Bay Program partners will build rigor and transparency for BMP verification up through the partnership and disseminate it through our many local partners who are ultimately responsible for the on-the-ground implementation of BMPs that will reduce the nutrient and sediment pollutants reaching local waters and the Bay.

Importance of BMP's and Verification in Bay and Watershed Restoration

Properly installed and functioning practices and technologies reduce local flooding, protect sources of drinking water, ensure against the collapse of stream banks, and support local economies through the return of clean water and viable habitats suitable for recreational activities. Conversely, improperly installed or functioning practices do little to mitigate the effects that runoff of nutrients and sediment can have on local waterways. As the Bay Program tracks partners' progress toward goals for cleaner waters, verifying that practices are being implemented correctly and are reducing nutrient and sediment pollution as expected will be critical in measuring success.   It will also help ensure that these efforts are doing the job of protecting people's properties, lands, riparian habitats and local streams.

BMP Verification as a Life Cycle

Within its BMP verification principles, the Bay Program partners have formally defined verification "as the process through which agency partners ensure practices, treatments, and technologies resulting in reductions of nitrogen, phosphorus, and/or sediment pollutant loads are implemented and operating correctly." Our independent BMP Verification Review Panel has recommended the partners view verification as a life cycle process, including initial inspection, follow-up checks, and evaluation of BMP performance (Figure 1).

What is a Basinwide BMP Verification Framework

The Chesapeake Bay basinwide BMP Verification Framework provides a structure by which the Bay Program partners will improve consistency throughout our collective analysis of the effectiveness and efficiency of various BMPs. It applies across local, regional, state, and federal agencies and facilities, institutions, organizations, and businesses involved in the implementation, tracking, verification, and reporting of practices, treatments and technologies for nutrient and sediment pollutant load reduction crediting.

Figure 1. Illustration of the BMP Verification Life Cycle
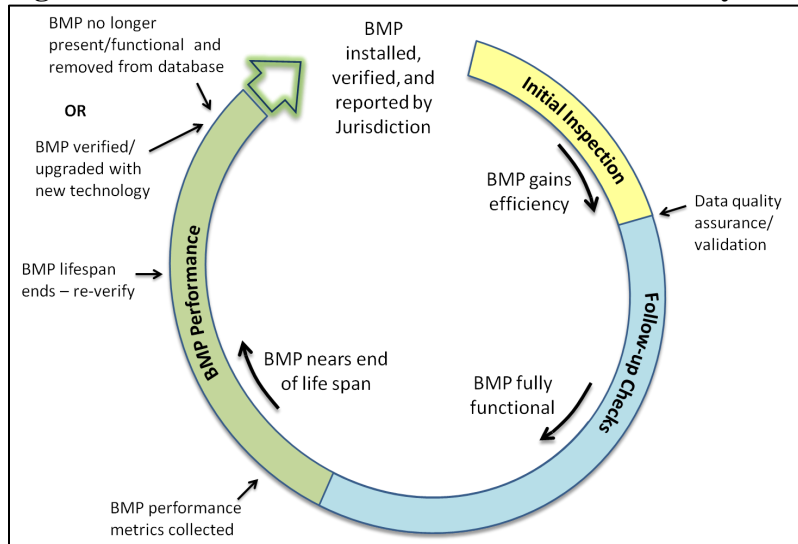
The framework is defined by 12 elements with four key components:
- Five **BMP verification principles** adopted by CBP that recognize the need for internal, organizational changes and enhancements that will create consistency in efforts across the watershed.
- **BMP Verification Guidance** from the Bay Program's six technical sector and habitat workgroups.
- The **BMP Verification Review Panel's recommendations** for the jurisdictions' enhanced BMP tracking, verification, and reporting programs.
- The Bay Program's commitments to **ongoing evaluation and oversight**.

Must Fully Account for All Pollution Reduction Efforts

There is a growing demand for the tracking and reporting of nutrient and sediment pollutant load reducing practices, treatments, and technologies to expand well beyond the sources and cost share programs the Chesapeake Bay watershed jurisdictions have traditionally relied upon—state agricultural departments, conservation and environmental agencies, the USDA, and conservation districts. Public and private entities as well as individual homeowners are now implementing and reporting on nutrient and sediment pollutant load reducing practices. One of the primary areas of concern expressed by all seven watershed jurisdictions and many local stakeholders regarding the accountability under the Chesapeake Bay TMDL is receiving credit for nutrient and sediment pollutant reducing practices implemented <u>outside</u> of state or federal regulatory programs and <u>without</u> the benefit of state or federal cost share funding.

Developing Enhanced Jurisdictional BMP Verification Protocols and Programs

While there is an opportunity to build from existing local, state, and federal jurisdictional BMP tracking and reporting programs, the partners recognize that none of the seven jurisdictions' existing BMP tracking, verification, and reporting programs, fully achieves all five principles across *all* sectors and habitats. Therefore, in the process of developing new and revising existing BMP tracking, verification and reporting protocols and programs, the jurisdictions are strongly encouraged to consult the four products and extensive recommendations developed by the Bay

Program's independent BMP Verification Review Panel. The Panel recommended the jurisdictions focus on:

- Taking full advantage of their choice to vary to the level of BMP verification based on the relative importance of a specific practice to achieving the jurisdiction's Watershed Implementation Plan nutrient and sediment pollutant load reduction targets.

- Grouping the hundreds of BMPs they be tracking and reporting into categories that make sense for each jurisdiction and then develop and document the appropriate protocols and procedures followed for each logical grouping of BMPs.

- Structuring their verification programs to carry out an initial inspection for answering the question "is the BMP there?" and then follow-up checks carried out at the appropriate frequency to answer the question "is the BMP still there and operating?" throughout the lifespan of the practice.

- Providing documentation on procedures in place which prompt the need for conducting a follow-up check of a BMP at the end of its approved lifespan and for removing BMPs which go beyond their lifespans and are not follow-up checked to confirm the BMP is still there and operational.

- Having written procedures in place for assuring the quality of the BMP data for which the jurisdictions are now accountable for, which includes any practice data reported to the jurisdictions by other local, regional, and federal agencies, and non-governmental organizations.

Implementation of the Basinwide Framework

The Chesapeake Bay Program partners have committed to carry out a series of actions, processes, and procedures to ensure full, equitable, implementation of this BMP verification framework across all jurisdictions, source sectors and habitats. In the two years immediately after the jurisdictions' enhanced BMP verification programs are approved by EPA, the partners will ramp up their verification programs and make the necessary internal adjustments and adaptations for its implementation. In the 2018 progress reporting cycle, jurisdictions will need to provide verification documentation through the NEIEN reporting system.   Only those practices, treatment, or technologies supported by this documentation may be given credit for nitrogen, phosphorus, or sediment pollutant load reductions for that year.

Ensuring Ongoing Evaluation and Oversight

The Bay Program partners have committed to a suite of ongoing evaluation and oversight procedures to ensure the six BMP verification principles are adhered to and effectively carried out:
- Amending CBP BMP protocol to address BMP verification
- Amending CBP Grant Guidance to reflect BMP verification
- Annual reviews of progress data submissions to confirm verification of each submitted practice
- Annual reviews of the jurisdictions' quality assurance plans by EPA
- Periodic audits of the jurisdictions' verification programs by EPA.