

Best Management Practices: Protecting the Chesapeake Bay

The implementation, tracking and reporting of best management practices (BMPs) has been at the center of the Chesapeake Bay Program's restoration efforts for three decades. BMPs are conservation and technological practices that can reduce the amounts of nonpoint source pollutants—such as nutrients and sediment—that enter local waters and the tidal Chesapeake Bay. The Chesapeake Bay Program rigorously tracks the progress of its partners toward meeting goals for healthier Bay waters, including their BMP implementation efforts. As part of this effort, the partnership requires a three-step BMP verification process that ensures they are being implemented correctly and are effectively reducing nutrient and sediment pollution as expected.

How Do BMPs Protect the Chesapeake Bay?

Most non-point source pollution is created when flowing stormwater picks up human and man-made pollutants from the surface of the land or causes soil and streambanks to erode. The types of non-point source pollution entering a given waterbody are influenced by the land uses of the watershed (e.g., agriculture, urban areas, forestry).

Implementing BMPs can help reduce the amount of pollution that reaches water bodies by preventing the release of pollutants from a given source, slowing the flow of stormwater flow or by intercepting and removing the pollutants that are being carried by stormwater runoff.

Reducing pollution in stormwater runoff will help meet the goals of the Chesapeake Bay Total Maximum Daily Load (Bay TMDL). Established in 2010, the Bay TMDL sets limits for major sources of nitrogen, phosphorus and sediment pollution entering the Chesapeake Bay. To meet these limits, the seven Chesapeake Bay watershed jurisdictions – Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia and West Virginia – need to reduce nitrogen loads by 25 percent, phosphorus loads by 24 percent and sediment loads by 20 percent. These limits, or allocations, were divided across each of the jurisdictions, who then develop strategies known as Watershed Implementation Plans (WIP), that outlines which BMPs can be put in place to meet nutrient and sediment reduction goals. As the Bay Program tracks the progress of its partners toward meeting their goals for cleaner waters, verifying that BMPs are being implemented correctly and are reducing pollution as expected is essential for measuring success.



How Can BMPs Benefit the Bay Watershed?

BMPs are conservation and technological practices that:

- Reduce the amounts of nutrients and sediment entering water bodies
- Reduce local flooding by preventing rapid stormwater runoff into water bodies
- Protect economically important fisheries
- Protect drinking water sources
- Prevent erosion and streambank collapse
- Protect recreational resource waters (swimming, fishing, wading, boating)
- Provide co-benefits such as creating wildlife habitat, providing shade, and improving aesthetics

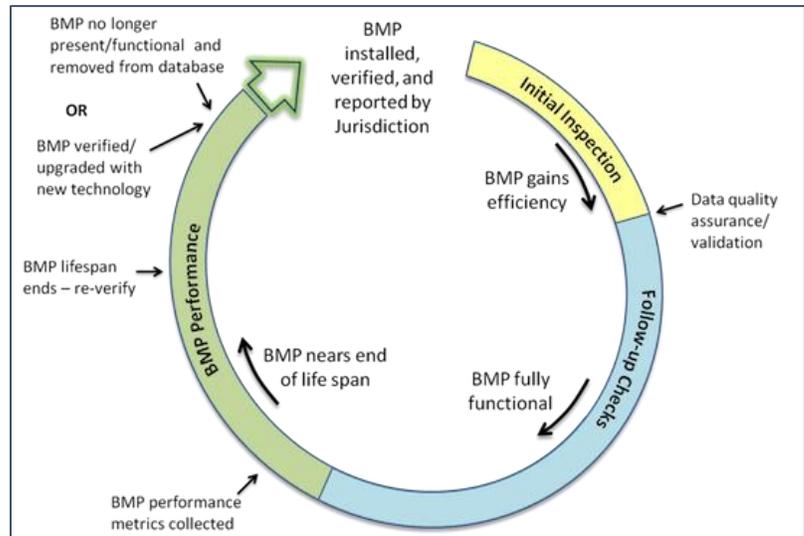


Establishing forest buffers along water bodies provides a natural vegetated area that filters polluted stormwater, dissipates flood energy, reduces erosion potential and reduces water temperatures by providing shade.

BMP Verification Will Help Meet Bay Water Quality Goals

The Bay Program developed a detailed framework for building rigor and transparency for BMP verification. Using this approach, the Bay Program will verify that BMPs across the watershed are being implemented correctly and are effectively reducing nutrient and sediment pollution as anticipated. To this end, the partnership requires a three-step BMP verification process for all BMPs implemented as part of a jurisdiction's pollution control strategy:

- **Step 1. Confirm BMP is in place by performing initial inspection when the BMP is installed.**
The data submitted during this step is reviewed to ensure that BMP data were collected, compiled and submitted correctly; double counting of BMPs is prevented; and older BMP data are removed.
- **Step 2. Confirm that BMP continues to operate correctly.**
Perform follow-up checks on BMP operation and function throughout the lifespan of the practice. If the BMP is no longer present or functional, it may be upgraded and reverified or removed from the database.
- **Step 3. Collect BMP performance data.** This will show whether the BMP is working as expected and is having the intended pollution control effect.



The BMP verification process covers the lifespan of the practice.

What Roles Will BMPs Play in Phase III WIPs?

Since the Bay TMDL was established in 2010, hundreds of new BMPs have been approved and are available for pollutant-reduction credit in the Phase 6 Watershed Model. The full list of creditable practices now includes everything from rain gardens to oyster aquaculture. The model simulates and accounts for expected pollutant reductions achieved with specific BMPs; therefore, planners can use the model to develop and refine their Phase III WIPs to meet their jurisdiction's pollution reduction targets. The BMP verification process will ensure that the BMPs identified in a Phase III WIP are more likely to have the anticipated results.



Photo by Will Parsons, CBP

Rain gardens, such as this one in Annapolis, Maryland, slow and filter stormwater runoff, provide wildlife habitat, and offer aesthetic benefits.

View Basinwide BMP Verification Framework information:

https://www.chesapeakebay.net/what/programs/bmp_introduction_to_bmp_verification/bmp_the_framework_elements

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