Improving Monitoring Data and Analyses to Assess Progress toward Meeting Chesapeake Bay Water-Quality Standards (Management Board Meeting, May 9, 2012)

Issue:
The Chesapeake Bay Program (CBP) partners are working to improve communication of progress toward attainment of water-quality standards in the Bay and its relation to actions being implemented for *Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment* (Bay TMDL). The CBP partners are developing a multi-faceted approach to improve accountability and communicate progress toward attaining water quality standards in the Chesapeake Bay and its tidal tributaries and integrating with information related to the TMDL. The proposed approach includes three primary pieces of information:

- Reporting of water-quality practices
- Trends of nitrogen, phosphorus and sediment in the watershed.
- Attainment of dissolved oxygen, chlorophyll-a, and water clarity/SAV standards.

Integrated Approach to Communicate Progress toward Water-Quality Standards
The CBP partnership is developing a more integrated approach, which uses BMP implementation information and monitoring data from the Bay and its watershed, to assess and communicate progress toward water-quality standards and the relation to the Bay TMDL, which includes:

- Enhanced tracking and verification of BMP implementation. The CBP Principals' Staff Committee has approved an initiative to enhance verification of BMP implementation that will increase the accuracy of annual progress reports that are used to track 2-year milestones.
- Expanded monitoring of nutrients and sediment in the watershed. The EPA is working with the jurisdictions and USGS to add 40 monitoring sites in suburban, urban, and agricultural areas. With the new sites, CBP nontidal water-quality network will have 120 locations where monitoring data can be used to help assess progress in reducing nitrogen, phosphorus and sediment loads.
- Enhanced analysis of trends in the Bay watershed and comparison to allocations within the Bay TMDL. The USGS has worked with the CBP to report trends in nitrogen, phosphorus and sediment concentrations for two time periods: 1985 to present, and the last 10 years, and also yields from sites in the CBP nontidal monitoring network. USGS has developed a new technique to assess change in nutrient and sediment loads and is working with CBP on how to best compare to Bay TMDL allocations.
- Improved analysis of tidal monitoring data to assess attainment of water-quality standards in the Bay and its tidal tributaries. EPA is working with partners to develop an indicator of progress toward attainment of DO, clarity/SAV and chlorophyll-standards in the tidally-influenced waters of the Bay and tributaries.
- Providing a summary of "lessons learned" about the affect of BMP implementation on water-quality improvements. The CBP partners are summarizing information from case studies in the Bay watershed and other national efforts. A report will be released in 2012 of the findings that will help partners more effectively implement practices to achieve Watershed Implementation Plan (WIP) and 2-year milestone commitments and meet the Bay TMDL allocations. USGS will be working with STAR to produce summary reports for the Delmarva (2013) and Potomac (2015).

Potential EC action: Discuss key results in progress toward implementing WIP and milestone commitments, trends in nitrogen, phosphorus and sediment in the watershed, and status of attainment of standards in the Bay. Discuss how the new integrated approaches will improve tracking and accountability and help partners more strategically implement pollution reduction practices.