2014 Chesapeake Bay Watershed Agreement: Management Strategy for the 2017 WIP Outcome, 2025 WIP Outcome, and Water Quality Standards Attainment & Monitoring Outcome

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Introduction

For the past 30 years, the Chesapeake Bay Program (CBP) partnership have been committed to achieving and maintaining the water quality conditions necessary to support living resources throughout the Chesapeake Bay watershed. Building off these commitments and using the best scientific information available, the CBP partnership agreed to the nutrient and sediment allocations in the 2010 Chesapeake Bay Total Maximum Daily Load (Bay TMDL), a historic and comprehensive pollution reduction effort in the Chesapeake Bay watershed. The Bay TMDL identifies the necessary pollution reductions from major sources of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia, and sets pollution limits necessary to meet water quality standards in the Bay and its tidal rivers.

The Watershed Implementation Plans (WIPs), developed by the seven Bay watershed jurisdictions, are a key element under the Bay TMDL and provide a roadmap for how the jurisdictions, in partnership with federal and local governments, will achieve the Bay TMDL's nutrient and sediment allocations. These plans set pollution reduction targets for sources like agricultural runoff, stormwater runoff, and wastewater.

The jurisdictions are expected to develop WIPs over three Phases. Phase I and Phase II WIPs were developed and submitted to EPA in 2010 and 2012, respectively, which described actions and controls to be implemented by 2017 to achieve applicable water quality standards. The Phase I and Phase II WIPs can be accessed here: www.epa.gov/chesapeakebaytmdl.

In 2018, EPA expects the seven Bay watershed jurisdictions to develop Phase III WIPs that provide more information on what actions the jurisdictions intend to implement between 2018 and 2025, so that by 2025 all practices are in place that are necessary to meet applicable water quality standards in the Bay and its tidal tributaries. Monitoring assessments will ultimately determine when the states' Chesapeake Bay water quality standards are achieved and the Chesapeake Bay and its tidal tributaries and embayments are restored.

In conjunction with the implementation of the WIPs, the partnership is currently engaged in an evaluation of water quality changes to explain progress toward meeting water quality standards and the Bay TMDL. In addition, the partnership will conduct selected assessments of factors affecting progress towards for restoring water quality, habitat, fish and wildlife, and conserving lands, including the effects of management activities. Further incorporation and use of monitoring information to assess progress is critical to better understand how on the ground actions have an impact toward meeting the 2017 and 2025 WIP outcomes.

Reducing pollution is critical to restoring the Chesapeake Bay watershed because clean water is the foundation for healthy fisheries, habitats, and communities across the region. All partners and source sectors must contribute substantial efforts in order to meet WIP reduction schedules and achieve the Bay TMDL allocations (which includes the interim (2017) and final (2025) targets).

Outcomes & Baselines

Background

In 2009, the Chesapeake Bay Executive Council established the goal that all practices for a clean Chesapeake Bay be in place by 2025. The Chesapeake Bay TMDL established the interim goal that practices be in place by 2017 to achieve 60 percent of the necessary reductions compared to 2009. The baseline for these reductions is based on the 2009 progress run, which was the last year for which pollution reduction progress was assessed prior to EPA establishing the Chesapeake Bay TMDL in 2010.

In 2012, the CBP partnership endorsed having a more integrated approach to assess progress toward the Bay nutrient and sediment TMDL and attaining water-quality standards. CBP partners have monitoring networks and efforts in place to conduct annual reporting of standards attainment and nutrient and sediment trends in the watershed. There are 92 segments in the Chesapeake Bay's tidal waters and each segment can have up to 5 designated uses. The methodology takes into consideration all designated uses for all segments to meet water quality standards in the tidal Chesapeake Bay. As of the 2012 baseline, 90 of 291 designated use segments meet water quality standards.

Water Quality Outcomes in the 2014 Chesapeake Bay Watershed Agreement

2017 WIP Outcome: By 2017, have practices and controls in place that are expected to achieve 60 percent of the nutrient and sediment pollution load reductions necessary to achieve applicable water quality standards compared to 2009 levels.

2025 WIP Outcome: By 2025, have all practices and controls installed to achieve the Bay's dissolved oxygen, water clarity/submerged aquatic vegetation and chlorophyll a standards as articulated in the Chesapeake Bay TMDL document.

Water Quality Standards Attainment & Monitoring Outcome: Continually improve the capacity to monitor and assess the effects of management actions being undertaken to implement the Bay TMDL and improve water quality. Use the monitoring results to report annually to the public on progress made in attaining established Bay water quality standards and trends in reducing nutrients and sediment in the watershed.

The Bay TMDL WIPs identify how the seven Bay watershed jurisdictions are putting measures in place by 2025 that are needed to restore the Bay, and by 2017 to achieve at least 60 percent of the necessary nitrogen, phosphorus and sediment reductions compared to 2009. Much of this work already is being implemented by the jurisdictions consistent with their Phase I and Phase II WIP commitments, building on 30 years of Bay restoration efforts.

WIPs are instrumental in the restoration of tidal water quality and are central to bringing back a healthy Chesapeake Bay ecosystem. As of 2013, practices are in place to achieve 27 percent of the nitrogen reductions, 43 percent of the phosphorus reductions and 37 percent of the sediment reductions compared to 2009 that are necessary to attain water quality standards in the Bay. The CBP will measure the 2017 and 2025 WIP outcomes annually by running implementation data collected from the jurisdictions through the partnership's modeling tools.

The water quality standards are supportive of other Bay Program goal areas including habitat and fisheries. The standards also provide benefits for protection of human health. Adding a new "attainment" outcome will provide information on water-quality conditions needed to assess the portion of the goal to achieve water quality necessary to support aquatic living resources. This outcome focuses on monitoring information to assess progress towards achieving standards in Bay and tidal water restoration.

Through 2012, 31 percent of the Bay and its tidal rivers met overall conditions for healthy waters. 70 percent of the sites through 2012 are showing long-term improvements in nitrogen and phosphorus. From 2003-2012, nitrogen conditions improved at about one half of sites, while phosphorus concentrations show little or no change at more than one half of sites. Improvement for sediment concentrations is less than that for nutrients, with 28 percent of sites showing long-term improvement (since 1985) and 10 percent of sites from 2003-2012.

Participating Jurisdictions & Agencies

The current signatories of the 2014 Chesapeake Bay Watershed Agreement include EPA on behalf of the United States, Virginia, Maryland, Pennsylvania, the District of Columbia, West Virginia, Delaware, New York, and the Chesapeake Bay Commission. The jurisdictional signatories developed the Phase I and Phase II WIPs to achieve the needed nutrient and sediment reductions whose controls are based on regulations, permits or otherwise enforceable agreements that apply to all major sources of these pollutants, including non-point sources. The final Bay TMDL is shaped by an extensive two-year public involvement effort and, in large part, by final Phase I WIPs developed by the seven Bay watershed jurisdictions, which detail how and when the jurisdictions will meet pollution allocations.

The draft Chesapeake Bay TMDL, which includes the 2017 and 2025 WIP outcomes, was developed through a highly transparent and engaging process. The outreach effort included hundreds of meetings with interested groups; two rounds of public meetings, stakeholder sessions and media interviews in all Bay watershed jurisdictions in fall of 2009 and 2010; a dedicated EPA website; a series of monthly interactive webinars; notices published in the Federal Register; and a close working relationship with CBP committees representing citizens, local governments and the scientific community. The seven Bay watershed jurisdictions held their own public meetings and public comment period for their respective WIPs, as these were state-developed documents.

A substantial portion of the nitrogen, phosphorus and sediment controls necessary to meet the Bay TMDL allocations will be implemented at the local level by partners including conservation districts, local governments, planning commissions, utilities and watershed associations. It is expected that the jurisdictions will need to conduct significant outreach to a variety of local entities such as municipal governments, conservation districts, and watershed associations to assess and determine the ideal scale at which implementation will occur and where possible, quantify local target loads within the WIPs. The jurisdictions may pursue somewhat different approaches to this local outreach.

Factors Influencing Goal and Outcome Attainment

There are four major factors that would affect the ability of the CBP partnership to achieve the water quality outcomes in the 2014 Chesapeake Bay Watershed Agreement:

- <u>Understanding the factors affecting the ecosystem response to pollutant load reductions.</u> The CBP has scientific knowledge to support the conclusion that implementing practices for reducing nitrogen, phosphorous, and sediment loads will achieve water quality standards in the Bay. This understanding is based on the current science and the associated CBP modeling system. Better understanding of the following elements could further enhance decision-making: (1) the factors affecting the time it will take to see improvements (i.e., "lag times") between implementation and responses in water quality; (2) factors in addition to nitrogen, phosphorous, and sediment pollutant load reduction that affect response of DO, clarity, SAV, and chlorophyll; (3) the relationships among water quality improvements and the recovery of habitat and fish populations; and (4) the effect of healthy habitats and fisheries on water quality.
- 2. Identifying the sources and their contributions nitrogen, phosphorus, and sediment pollutant loads. This is currently represented through CBP partnership's models, USGS SPARROW models, and supporting tidal and nontidal monitoring networks and research. As described in the Bay TMDL document (Chapter 4), the sources that are modeled by the CBP partnership are based on U.S. Census Bureau and USDA Census data, federal and state permitting data, satellite imagery, and additional data submitted by seven watershed jurisdictions. Some topics to improve understanding and reduce uncertainty include incorporating additional local data, refining information on the transport of loads through the watershed, and better predicting future impacts of population growth and climate change in the watershed.

- 3. Describing and quantifying the effects of pollution reduction practices. The pollution reduction values associated with nitrogen, phosphorous, and sediment controls that the CBP has approved for use in the models are based on extensive literature reviews and expert panel recommendations. Through its technical source sector workgroups and expert panels, the Water Quality Goal Implementation Team (WQGIT) is continuously refining these values based on new information and to take into account innovative practices. Some topics that would increase CBP's understanding of the effectiveness and efficiency of practices include: adopting principles to verify that reported practices are, indeed, in place and functioning as designed; further quantifying the effect of variations in watershed properties (such as different types of soils) on controls; quantifying changes in BMP performance over time; and better understanding the potential future impacts of climate change on BMP performance.
- 4. <u>The capacity of governments and the private sector to implement practices.</u> The jurisdictions have described their capacity (funding, authorities, and sustainability) to implement nitrogen, phosphorous, and sediment reduction practices several times over the past 2 decades. These include the tributary strategies developed during the 1990's and again in the mid-2000s, and more recently, in the Phase I and Phase II WIPs and two-year milestones, which also include strategies to build capacity in order to achieve pollutant reductions.

In addition to these four major factors, there are several other programmatic, management, and implementation issues that will affect attainment of the water quality outcomes. The CBP partnership is currently conducting a midpoint assessment leading up to 2017 that will allow the partnership to determine whether they are making sufficient progress toward the level of management practice implementation and nutrient and sediment pollutant load reductions necessary for achieving the Chesapeake Bay water quality standards.

This midpoint assessment will encompass a review of not only the implementation of the WIPs and milestones but also other data inputs, water quality monitoring, modeling and decision-support tools utilized by the partnership. The intent is that this assessment will strengthen and enhance the partnership's decision support capabilities towards meeting our shared objective in restoring the Bay.

The CBP partnership has agreed to consider a number of issues and actions as part of the midpoint assessment to better inform management on progress and implementation effectiveness, and what further decisions on implementation may be needed, as well to better inform the jurisdictions and local partners' development of their Phase III WIPs:

- A detailed multi-year assessment of chlorophyll in the tidal James River using augmented monitoring and modeling approaches
- Factoring in effects from continued climate change
- Explaining the factors affecting progress towards water quality restoration and effectiveness of management actions
- Assessing the implementation potential of filter feeders for nutrient and sediment reductions
- Examination of the impact the lower Susquehanna dams have on the pollutant loads to the Bay, including changes over time
- Incorporation of any potential recommendations from the BMP expert panels that could relate to model assumptions or refinements
- Transition to Phase 6 decision support tools
- Addressing regional factors that are used to calibrate Watershed Model loads to monitoring data
- Cleaning up historic implementation data that has been submitted by the jurisdictions to the Chesapeake Bay Program
- Prioritization of model refinements and other science and technical support tools based on specific implementation-driven considerations to enhance individual jurisdictions' strategies to achieve their 2017 and 2025 targets

- Develop new land use classifications and associated loading rates that incorporates more refined local land use data
- Expanding development and application of monitoring trend assessments to measure progress, provide insights into BMP effectiveness, and spur adaptive management at regional and local scales
- Adoption of BMP verification protocols and enhancement of verification programs to increase confidence in practice implementation while capturing previously unreported (non-cost shared) practices
- Continue to balance working out details for crediting such in-situ pollutant reduction practices with managing expectations for the size of the water quality benefits from these actions

Management Approach: Current Efforts & Gaps

The overall management efforts needed for reducing nitrogen, phosphorous, and sediment are provided in the Bay TMDL and elements of its accountability framework, including WIPs and two-year milestones. The Bay watershed jurisdictions committed to meet the interim (2017) and final (2025) target loads for nutrients and sediment in the Bay through their respective WIPs. The final target loads are expected to be consistent with the loads needed to achieve the water quality standards in the Bay.

The Bay TMDL is supported by rigorous accountability measures to ensure cleanup commitments are established and met, including short and long-term benchmarks, a tracking and accountability system for jurisdictions activities, and federal contingency actions that may be employed if jurisdictions efforts do not meet the milestone and WIP commitments. Federal agencies are accountable to the President's Executive Order Strategy and the reductions contained in the jurisdictions and other agreements between a state and a federal agency or installation. The accountability framework, which is described in section 7 of the TMDL, is designed to provide reasonable assurance that the needed reductions in point and nonpoint sources will be achieved for the TMDL. Section 10 of the Bay TMDL describes the use of adaptive management to implement the accountability framework.



As part of its efforts to carry out the Bay TMDL accountability framework, EPA interacts with the jurisdictions directly and through the WQGIT and its associated source sector workgroups. The WQGIT workgroups are focused on supporting the reduction of nitrogen, phosphorous, and sediment pollutant loads from key sources described in Section 4 of the Bay TMDL: wastewater, agriculture, urban storm water, septic systems, forests

and air, stream and tidal shoreline erosion and associated issues of milestones and nutrient offsets and trading. The WQGIT is supported by the CBP Scientific, Technical, and Analysis (STAR) team, which contains the modeling and monitoring workgroups. The CBP partnership's models are also used to assist the jurisdictions in assessing different options for management practices in the formulation of their WIPs and two-year milestone commitments.

The Phase I and Phase II WIPs evaluate the currently legal, regulatory, programmatic, financial, staffing, and technical capacity to deliver the target loads in the Bay TMDL. As part of their evaluation, the Bay watershed jurisdictions considered whether additional reductions could be achieved with existing capacity. The evaluation of existing capacity includes programs and rules, a comprehensive assessment of current point source permitting/treatment upgrade schedules and funding programs, nonpoint source control funding, existing permitting and incentive-based programs and regulations.

The jurisdictions identified gaps between their current capacity and the capacity they estimate is necessary to fully attain the interim and final nutrient and sediment target loads for each of the 92 drainage areas for impaired segments of the Bay TMDL. Necessary new capacity includes additional incentives, new or enhanced state or local regulatory programs, market-based tools, technical or financial assistance, and new legislative authorities. It also includes capacity from other federal agencies, local governments, the private sector, and/or non-governmental organizations.

Descriptions of efforts currently underway or planned to improve transparent and consistent monitoring, tracking, and reporting and assess the effectiveness of implementation actions are included in the WIPs. EPA, the States, the District, local governments, the private sector, and nongovernmental organizations will use these data to inform accountability and adaptive decision-making, and re-direct management actions and resources. Specific efforts include the use of the National Environmental Information Exchange Network to seamlessly exchange information between existing federal, State, or District databases and the suite of CBP decision support tools. Tracking data and models will be used, along with ambient monitoring data, to assess WIP and milestone commitments and progress.

The Bay watershed jurisdictions are now focused on on-the-ground implementation of management practices that they committed to in their WIPs and two-year milestones. Federal agencies also are focused on implementing their two-year milestones.

- Committing to more stringent nitrogen and phosphorus limits at wastewater treatment plants, including on the James River in Virginia. (Virginia, New York, Delaware)
- Pursuing state legislation to fund wastewater treatment plant upgrades, urban stormwater management and agricultural programs. (Maryland, Virginia, West Virginia)
- Implementing a progressive stormwater permit to reduce pollution. (District of Columbia)
- Dramatically increasing enforcement and compliance of state requirements for agriculture. (Pennsylvania)
- Committing state funding to develop and implement state-of-the-art-technologies for converting animal manure to energy for farms. (Pennsylvania)
- Considering implementation of mandatory programs for agriculture by 2013 if pollution reductions fall behind schedule. (Delaware, Maryland, Virginia)

Additional policies, programs, or actions include:

- Enforceable or otherwise binding commitments that controls will be, or are already being, implemented and maintained.
- Permits or contracts with quantifiable limits and milestones that the States or District can demonstrate are consistent with the Bay TMDL's target loads and wasteload and load allocations.
- Estimates of the necessary resources (funds, technical assistance, permit reviewers, inspectors) to support implementation and maintenance of practices.
- Documentation of historic participation and compliance rates associated with existing programs and practices and successful nutrient and sediment management efforts.

• Procedures and resources for assuring participation and compliance, such as inspections, effectiveness monitoring, self-audits, and any necessary enforcement actions.

The Bay watershed jurisdictions are expected to discuss plans to work with federal, local, private sector, and nonprofit partners to leverage capacity for achieving interim and final load targets. Contingency strategies have also been identified in the event that actions by partners, or by the jurisdictions, do not occur. For example, if an enhanced cost-share program does not yield adequate participation and compliance rates, a jurisdiction might agree to pursue enhanced authorities or new regulations to control loadings from that same source sector or another source sector.

Monitoring Progress

The CBP has extensive tidal and nontidal monitoring networks, which are used to (1) measure nitrogen, phosphorous, and sediment in the watershed, (2) assess conditions in tidal waters relative to established waterquality standards, and (3) evaluate tidal habitats conditions and living resource populations and health. The CBP also has a basin wide reporting process for tracking implementation of management practices. Many of these monitoring and assessment activities are coordinated through and provided by the CBP STAR team and partner science entities. The CBP, through the Scientific and Technical Advisory Committee (STAC), conducted a review of its monitoring programs in 2009, to better align efforts with the anticipated needs of the Bay TMDL and plans future evaluation to determine if changes need to be made to address the needs of the goal teams. Findings from all of the monitoring programs will need to be used to assess of potential improvements for CBP model simulations to help develop the Phase III WIPs by 2018.

STAR is working with the WQGIT to develop an approach to integrate three key pieces of related water-quality information to better assess and communicate progress toward the Bay TMDL and associated water-quality standards including:

- Implementation of BMPs: Indicators for the reduction of nitrogen, phosphorous, and sediment by source, jurisdiction, and overall load reductions. These indicators are based on BMP data submitted by the jurisdictions that are run through the CBP models to estimate progress toward load reductions.
- Changes of in-stream nitrogen, phosphorous and sediment concentrations and loads: indicators of flowadjusted trends of nitrogen, phosphorous, and sediment. These indicators show long-term (25 year) and shorter term (10 year) changes in when annual effect of streamflow variability are removed. The indicators are based on monitoring data collected as part of the CBP nontidal network.
- Indicators of attainment of Chesapeake water quality standards for dissolved oxygen, chlorophyll-a, water clarity/SAV standards. These indicators are based primarily on results from the CBP tidal water-quality monitoring network.

There is additional monitoring and assessment to address the factors affecting annual loads, responses in living resources, and efforts underway to improve monitoring programs. The WQGIT and STAR efforts to enhance monitoring and analysis for each facto include:

- <u>System understanding</u>: The CBP has annual monitoring of river flow to the Bay to help explain yearly changes in DO, clarity/SAV, and chlorophyll-a conditions Additional living resources monitoring is used to assess changes in populations of lower trophic levels (SAV and invertebrates) and fisheries (crabs, oysters, and selected finfish species) that are dependent on habitat conditions. Some improvements for monitoring and system understanding include:
 - Enhance analysis of tidal monitoring data to assess progress toward water-quality standards.
 - \circ Expand small watershed monitoring and assessment to better evaluation BMP efficiency,
 - Produce reports explaining water-quality change and lessons learned from BMPs and water-quality response. STAR prepared a report on lessons learned about water quality improvements and USGS plans to report on water-quality changes on the Delmarva (2013) and Potomac (2015).

- <u>Loads</u>: The CBP partners and USGS operate the River-Input Stations to monitor and help assess annual loads of nitrogen, phosphorous, and sediment to the Bay which are used to explain changes in estuary water quality conditions. New techniques are being developed to better compare the N, P, and S load data to TMDL allocations.
- <u>Practices</u>: Starting in 2010, CBP is using the National Environmental Information Exchange Network (NEIEN) system for improved submission of BMP data from the jurisdictions. Members of the WQGIT Watershed Technical Workgroup are responsible for helping to develop, understand, and submit data through the NEIEN system. EPA also has a new reporting system—the Bay Tracking and Accounting System, or BayTAS to help track progress toward meeting Bay TMDL allocations. WQGIT members have been actively involved in the development of BayTAS and regularly review BayTAS reports. The CBP is working with the jurisdictions and federal partners to improve verification of reported nutrient and sediment controls. The WQGIT also adopted a protocol for reviewing the effectiveness of nutrient and sediment controls based on expert panels and the best available literature and data. These expert panels are underway to modify existing, or approve new, nutrient sediment controls for use by the CBP models.
- <u>Capacity</u>: The monitoring needed to track the capacity to implement practices is discussed in the previous bullet.

Assessing Progress

The CBP accountability framework provides the foundation to assess performance toward the TMDL and associated water-quality standards. To ensure that tidal water quality goals are realized, stability of the accountability framework is a priority and follow-ups to CBP partnership commitments must be assured. The partnership would be consulted on any potential, proposed changes to the Phase II WIP Planning Targets, which would provide for the watershed-wide distribution of load reductions (separate from any nitrogen-phosphorus and/or cross-basin exchanges within a state which are the responsibility of that jurisdiction) that would achieve the same Chesapeake Bay water quality response. Enhanced knowledge of management practices and their effects will be used primarily to refine individual jurisdiction strategies to achieve the targets.

EPA will measure the jurisdictions' progress toward reaching the Bay TMDL's ultimate nitrogen, phosphorus, and sediment reduction goals against 2-year milestones by which the jurisdictions are expected to identify and commit to implement specific pollutant-reduction controls and actions in each of their successive 2-year milestone periods. The federal government also will be providing 2-year milestones.

When assessing 2-year milestone commitments, EPA will evaluate whether proposed actions, controls, and practices would result in estimated loads at the jurisdiction scale that meet the jurisdiction's 2-year milestone targets. At the end of a milestone period, EPA expects that model-estimated nitrogen, phosphorus, and sediment loads resulting from reported implementation would be at or below target loads at the jurisdiction scale. To determine whether sufficient progress is being made toward meeting the TMDL allocations and interim milestones, EPA will rely on the jurisdictions to monitor, verify, and report their progress. EPA will use the reported tracking data and the Phase 5.3 Chesapeake Bay Watershed Model along with Chesapeake Bay tidal and watershed water quality monitoring data (including contributions from other federal agencies including NOAA, USGS, USACE, and USDA) to assess the jurisdictions' progress.

Adaptively Manage

In a dynamic environment like the Bay watershed, changes during the next 15 years change is inevitable. It may be possible to accommodate some of those changes within the existing Bay TMDL framework without the need to revise it in whole, or in part. The CBP partnership has committed to take an adaptive management approach to the Bay TMDL and incorporate new scientific understandings into the Bay TMDL through the midpoint assessment. Future adjustments to WIPs and two-year milestones based on changing conditions and the availability of new information is consistent with the CBP's concept of adaptive management.

The CBP partnership will continue to examine the following questions to address implementation challenges and opportunities; incorporate new data and scientific understandings; and refine decision support tools and management strategies toward the achievement of the water quality outcomes in the 2014 Chesapeake Bay Watershed Agreement:

- What progress had been made in implementing practices for the Bay TMDL?
- What are the changes in water quality and progress toward water-quality standards?
- What are we learning about the factors affecting water-quality changes to better implement practices?
- What improvements are needed in modeling, monitoring, and science?
- How do we best consider the combined impacts on land change and climate variability (storm events and long-term change) on nutrient and sediment loading and implications for the TMDL?

Biennial Workplan

The two-year milestones represent key check-in points on the way to having all pollution reduction measures in place by 2025 to restore the Bay and its tidal rivers, with controls in place by 2017 that would achieve 60 percent of the necessary reductions. The milestones are a critical part of an accountability framework agreed upon by EPA and the seven Bay watershed jurisdictions to assure progress.

The two-year milestones will demonstrate the effectiveness of the jurisdictions' WIPs by identifying specific near-term pollutant reduction controls and a schedule for implementation. EPA will review these two-year milestones and evaluate whether they are sufficient to achieve necessary pollution reductions and, through the use of Bay TMDL TAS, determine if milestones are met. This management strategy will be updated as these evaluations occur.