UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

NOV - 4 2009

The Honorable L. Preston Bryant, Jr.
Secretary of Natural Resources
Patrick Henry Building
1111 East Broad Street
Richmond, Virginia 23219

Dear Secretary Bryant:

The purpose of this letter is to provide the Chesapeake Bay Program's Principals' Staff Committee with the U.S. Environmental Protection Agency's [1] expectations for the Watershed Implementation Plans, which the six watershed States and the District of Columbia will submit in support of the development of the draft and final Chesapeake Bay Total Maximum Daily Load (Bay TMDL).

Background and Overview of Watershed Implementation Plans

As you are aware, EPA is establishing a federal TMDL for the tidal segments of the Chesapeake Bay and its tidal tributaries and embayments that are listed as impaired or segments that deliver pollutant loads to segments listed as impaired under Section 303(d) of the Clean Water Act (CWA) due to excess nutrients and sediment. The scope of this TMDL includes nutrient and sediment loads delivered to the Bay from all sources throughout the watershed as well as atmospheric deposition of nitrogen to the watershed and tidal waters from air emission sources within and outside the watershed. The Bay TMDL will satisfy the requirements of both the 1999 Virginia and 2000 District of Columbia consent decrees as well as Maryland's request that EPA develop TMDLs by May 2011 for Bay and tidal tributary waters listed on the Virginia, District of Columbia, and Maryland 303(d) lists due to impairments caused by nutrients and sediment.

Over the past 15 months, the Chesapeake Executive Council, Principals' Staff Committee, EPA, and the President of the United States have all expressed a need for acceleration of our progress toward restoration of Chesapeake Bay, a sharper emphasis on explicit actions, and greater transparency and accountability in these efforts. The Watershed Implementation Plans (Plans) are a key element of this new era of ecosystem restoration, greater transparency and accountability, and improved performance. The Plans, developed by each of

[1] These expectations were jointly developed by the U.S. Environmental Protection Agency's Region III Water Protection Division and Chesapeake Bay Program Office, EPA Region II, and the EPA Headquarters' Office of Water.

the six watershed States and the District of Columbia (District) pursuant to Section 117(g)(1) of the CWA, will provide a roadmap for how the States and the District, in partnership with federal and local governments, will achieve and maintain the Bay TMDL nitrogen, phosphorus, and sediment allocations necessary to meet the States' and the District's Bay water quality standards. In combination with the two-year milestones and follow-up progress reports to the public, these Plans also fulfill the heightened expectation within *Executive Order 13508: Chesapeake Bay Protection and Restoration* to create a new accountability framework that guides local, state, and federal water quality restoration efforts.

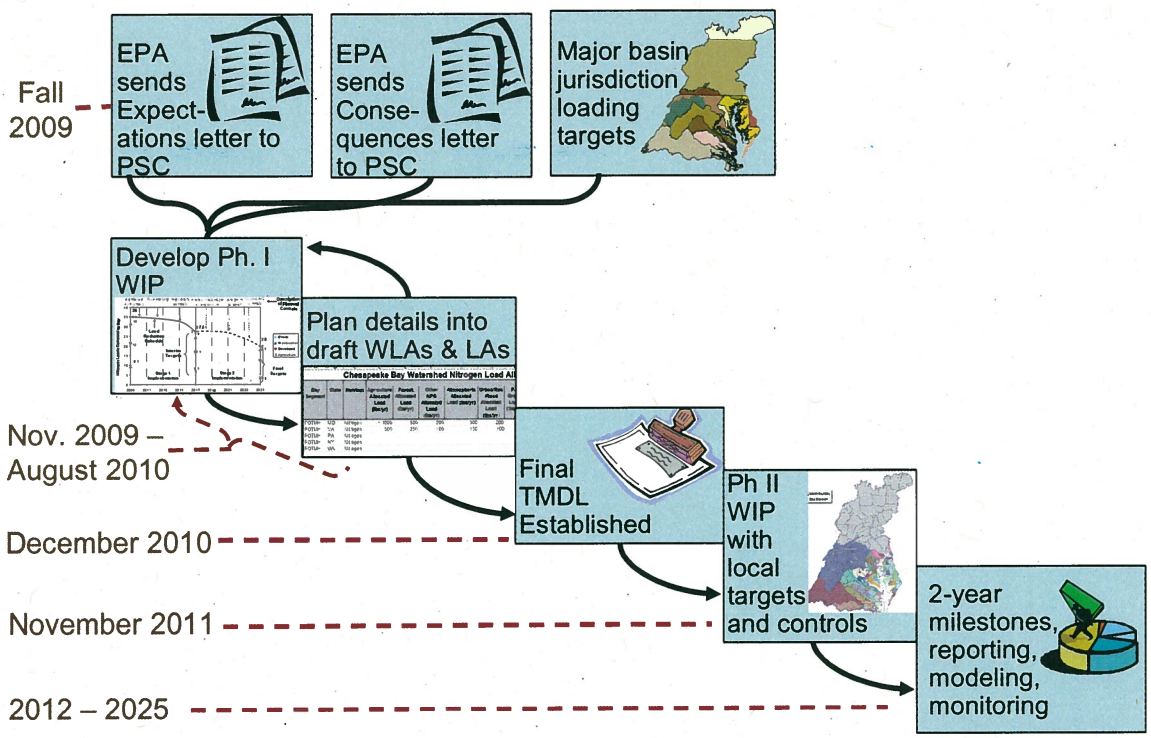
EPA expects the jurisdictions' Watershed Implementation Plans to identify a schedule for accomplishing reductions in nutrient and sediment loads needed to attain water quality standards. EPA also expects Plans to include dates for enhancing programs and implementing key actions to achieve these reductions, with all such actions to be implemented as soon as possible and by no later than 2025. These actions could include adopting new regulatory authorities, improving compliance with existing regulations, securing additional resources for cost-share programs, and issuing National Pollutant Discharge Elimination System (NPDES) permits with more stringent effluent limits.

Consistent with EPA's September 11, 2008 letter to the Principals' Staff Committee and *Executive Order 13508*, EPA has heightened expectations that all of the Bay jurisdictions will achieve and maintain nutrient and sediment reductions necessary to meet the Bay's water quality standards, including offsetting any new or increased loads from population growth and land use changes anticipated in the coming decades. Among these expectations is that all of the Bay jurisdictions develop Watershed Implementation Plans designed to accomplish those goals by implementing the point and nonpoint source pollutant allocations in the Chesapeake Bay TMDL. EPA's expectations for development of these Plans are uniform for all Bay jurisdictions, except in one respect. EPA expects the signatories to the *Chesapeake 2000* agreement, i.e., Maryland, Virginia, Pennsylvania, and the District of Columbia, to develop Plans to achieve needed nutrient and sediment reductions whose control actions are based on regulations, permits or otherwise enforceable agreements that apply to all major sources of these pollutants, including nonpoint sources. EPA does not necessarily expect Delaware, New York, and West Virginia to base all control actions identified in their Plans on such regulations, permits, or enforceable agreements, but nevertheless strongly encourages them to do so. This difference in expectations reflects, in part, the jurisdictions' different status as signatories (or not) of the *Chesapeake 2000* agreement and the implications of that status for EPA's expectations pursuant to CWA Section 117(g). Section 117(g)(1) provides that EPA, in coordination with the other members of the Chesapeake Executive Council, "shall ensure that management plans are developed and implementation is begun by signatories to the Chesapeake Bay Agreement . . ." Nonetheless, consistent with previous TMDL guidance, EPA expects that Plans and follow-up actions in the non-signatory States will also result in the necessary loading reductions. All States, including Delaware, New York, and West Virginia, are expected to demonstrate progress through two-year milestones. These expectations are further discussed in Enclosure B.

Purpose of Watershed Implementation Plans in the TMDL Development Process

The Watershed Implementation Plans fulfill several crucial components of the Bay TMDL implementation framework described in EPA's September 11, 2008 letter to the Principals' Staff Committee. These Plans contribute directly to a fair and transparent wasteload and load allocation process. As illustrated in Figure 1, EPA put forward nutrient target loads for the eight major basins within each of the six watershed States and the District on November 4, 2009 based on recommendations from the Principals' Staff Committee. EPA will develop and propose a similar set of sediment target loads for major basins next Spring.

Figure 1. Overview of Watershed Implementation Plan and TMDL Development Process



Schedule based on completion of the Bay TMDL by December 31, 2010.

EPA recognizes that the level of detail it expects the States and the District to include in the Watershed Implementation Plans will take time to develop and has divided the Watershed Implementation Plan development process into three distinct phases. For the Phase I Watershed Implementation Plans, EPA expects the States and the District to divide the basin nutrient and sediment target loads among nonpoint source sectors and individual permitted sources within the area draining to each of the 92 303(d) segments.[2] The Phase I Plans provide a mechanism for the States and the District, engaging with local partners, to provide information for EPA to consider when it establishes wasteload allocations for point sources and load allocations for nonpoint sources within each of the 92 303(d) segments of the Bay and its tidal tributaries and embayments. The eight major basins that together comprise the Chesapeake Bay watershed and

[2] Where data limitations exist, EPA may allow States and the District to aggregate loads from permitted facilities.

the 303(d) segment drainage areas within each basin are illustrated in Figure A1 and listed in Table A1 of Enclosure A. These allocations will include a margin of safety and will collectively comprise the Bay TMDL.

EPA expects Phase I Watershed Implementation Plans to include a description of the authorities, actions, and, to the extent possible, control measures that will be implemented to achieve these point source and nonpoint source target loads and TMDL allocations. EPA also expects the Phase I Plans to include information for permit writers to issue permits for point sources that are consistent with wasteload allocations. This information is particularly important for non-tidal States (Pennsylvania, New York, and West Virginia) that wish to receive a gross wasteload allocation in the Bay TMDL. EPA will only establish a gross wasteload allocation in these States if their Plans contain enough detail to inform individual permits for sources within the wasteload allocation. For the tidal jurisdictions (Maryland, Virginia, Delaware, and the District of Columbia), EPA expects to establish individual wasteload allocations for all significant point sources to the extent possible. Enclosure B provides additional information on the details that EPA expects within the Watershed Implementation Plans to support the Bay TMDL. EPA requests that States and the District submit preliminary and draft Phase I Plans by June 1 and August 1, 2010, respectively, to inform the draft Bay TMDL. EPA expects States and the District to revise and submit final Phase I Plans by November 1, 2010, to support the final Bay TMDL that EPA will establish in December 2010.

EPA expects States and the District to develop Phase II Watershed Implementation Plans, to be submitted in draft and final by June 1, 2011, and November 1, 2011, respectively, that further divide nonpoint source load allocations and any aggregate point source wasteload allocations (e.g., for nonsignificant facilities) among smaller geographic areas, or facilities or sources where appropriate. This targeting of nutrient and sediment loads to a finer scale will help local decision-makers, including municipal governments, conservation districts, and watershed associations, better understand their contribution to and responsibilities for reducing pollutant loads. EPA encourages States to work closely with local elected decision-makers, local agency staff, and other local partners as they develop these more specific nutrient and sediment target loads. EPA does not expect these locality-specific target loads until after the TMDL is established to allow additional time for meaningful engagement with local partners. Enclosure B includes suggested considerations for selecting an appropriate scale for local targets. EPA also expects States and the District to work with local partners and identify within their Phase II Plans specific controls and practices that will be implemented by no later than 2017 to meet interim water quality goals.

Finally, EPA expects that States and the District will work with local partners to submit Phase III Watershed Implementation Plans in 2017 with refined actions and controls that will be implemented between 2018 and 2025 to achieve water quality standards. Enclosure D provides a schedule summarizing when the Agency expects States and the District to submit each phase of their Watershed Implementation Plans.

As the following Enclosures emphasize, the Watershed Implementation Plans are part of a broader, ongoing accountability framework. EPA will assess progress toward fulfilling the

pollution reduction targets identified in the Plans, meeting the Bay TMDL allocations, and achieving the Chesapeake Executive Council's goal that all pollution control measures necessary for a restored Bay be in place as soon as possible but by no later than 2025 through implementation of the States' and the District's two-year milestones. EPA expects that the States and the District will identify and commit to implement specific pollutant reduction controls and actions in each of their successive two-year milestones. Prior to the start of each milestone period, EPA will evaluate whether these two-year commitments are sufficient to achieve the pollutant reduction identified in the Plans at the end of each two-year milestone period and whether the States and the District have fulfilled their milestone commitments. EPA expects that the Watershed Implementation Plans and two-year milestones will contain greater source sector and geographic load reduction specificity, more rigorous assurances that load reductions will be achieved, and more detailed and transparent reporting to the public than past Bay restoration efforts. EPA expects this new accountability framework, including development of the initial Phase I Watershed Implementation Plans prior to the establishment of the Bay TMDL and jurisdictions' commitment to update Plans and adopt two-year milestones, will demonstrate greater assurance to EPA that the TMDL point and nonpoint source allocations can and will be achieved and maintained.

The Virginia and District of Columbia consent decrees require that EPA establish the Bay TMDL by May 1, 2011. EPA expects to complete the Bay TMDL by December 31, 2010. In order to establish a final TMDL by December 2010, EPA must propose a draft TMDL, including wasteload and load allocations for each of the 92 tidal Bay segments and tributaries, by August 2010, followed by a 60-day public comment period. For EPA to review and incorporate information in the Plans into its proposed TMDL, EPA must receive preliminary Phase I Plans by June 1, 2010. EPA will evaluate these Plans and work with the States and District to make any necessary changes prior to proposing the draft Bay TMDL. The States and the District will submit updated, draft Plans by August 1, 2010, that will be published for public comment along with the draft Bay TMDL. EPA would expect the States and the District to complete any revisions to their Plans by November 1, 2010 in order for EPA to incorporate any changes in the Plans into the final Bay TMDL by December 31, 2010. EPA recognizes that these Watershed Implementation Plans will be refined and gain specificity in Phases II and III.

EPA Commitments

If any State or the District does not submit a Watershed Implementation Plan to EPA as part of the Bay TMDL development process, or submits a Plan that does not meet EPA's expectations, EPA may take any, or all, of a variety of actions or "consequences" it will identify and discuss in a separate letter to be sent to the Chesapeake Bay Program Principals' Staff Committee later this Fall. Likewise, if any State or the District does not submit or fulfill its two-year milestones for nutrient and sediment reductions, EPA may take any of a number of actions or consequences to be identified in that letter. Consequences may include but are not limited to: revising the Bay TMDL wasteload allocations to assign more stringent pollutant reduction responsibilities to point sources of nutrient and sediment pollution; objecting to state-issued CWA NPDES permits; acting to limit or prohibit new or expanded discharges of nutrients and sediments; and/or withholding, conditioning, or reallocating federal grant funds.

EPA recognizes and applauds the substantial efforts the States and District are prepared to take to enhance their program capacity and meet the TMDL's nutrient and sediment reduction targets. Leading by example, EPA and its federal partners are prepared to meet similar expectations and be fully accountable and transparent to the public. As proposed in the draft *Executive Order 13508* recommendations released on September 10, 2009, EPA will assume responsibility for the Bay TMDL's load allocations for atmospheric deposition of nitrogen to the Bay watershed and tidal waters by establishing federal standards and working with jurisdictions to comply with these standards. Specifically, EPA will: 1) analyze reductions of nitrogen from atmospheric sources that could be achieved, known as controllable loads; 2) establish separate load allocations to tidal waters; 3) build quantitative assumptions into load allocations in the watershed that a portion of necessary reductions will be achieved through compliance with federal standards and regulatory actions to further reduce atmospheric deposition; 4) work with States to implement the federal regulations and encourage additional voluntary programs; and 5) set specific commitments and track progress through EPA's own set of two-year milestones. Likewise, EPA will expect federal facilities to meet performance standards for enhanced stormwater management that will be reflected within the Bay TMDL wasteload and load allocations. EPA or the NPDES permitting authority will track progress toward meeting enhanced stormwater management by federal facilities through its two-year milestones.

Enclosures

Enclosure A describes the degree of spatial resolution of the Bay TMDL wasteload and load allocations. Enclosure B discusses EPA's expectations for the development of the Watershed Implementation Plans. Enclosure C distinguishes the Plans and future two-year milestones from past tributary strategies and milestone commitments. Enclosure D provides EPA's schedule for the development of the Bay TMDL, separate phases of the Watershed Implementation Plans, and two-year milestones.

If you have any questions, please contact Mr. Jon M. Capacasa, Director, Water Protection Division, at (215) 814-5422 or Mr. Robert Koroncai, Chesapeake Bay TMDL Manager, at (215) 814-5730.

Sincerely,

William C. Early
Acting Regional Administrator

cc:
Chesapeake Bay Program Principals' Staff Committee Members
Peter Silva, Assistant Administrator, Office of Water, U.S. Environmental Protection Agency
J. Charles Fox, Senior Advisor to the Administrator, U.S. Environmental Protection Agency
George Pavlou, Acting Regional Administrator, Region II, U.S. Environmental Protection Agency

ENCLOSURE A

EXPECTATIONS FOR SPATIAL RESOLUTION OF CHESAPEAKE BAY TMDL WASTELOAD AND LOAD ALLOCATIONS

EPA provided its expectations for the scale and detail of the Bay TMDL nitrogen, phosphorus, and sediment allocations within the separate jurisdictions comprising the Chesapeake Bay watershed in its September 11, 2008 letter to the Principals' Staff Committee:

"The tidal states (Maryland, Virginia and Delaware), the District and EPA Region III have agreed that the TMDL should contain detailed load allocations (LAs) and wasteload allocations (WLAs) designed to achieve water quality standards for the impaired waters of the Bay and its tidal tributaries. EPA Region III expects to include individual WLAs and sector LAs in the final Chesapeake Bay TMDL sufficient to achieve and maintain water quality standards in the Bay and its tidal tributaries. Using the Chesapeake Bay airshed, watershed and water quality/sediment transport models, EPA will confirm that the proposed allocations for these tidal water jurisdictions, along with allocations to the other states, will attain water quality standards in the Chesapeake Bay and its tidal tributaries. At a minimum, EPA Region III intends to identify in the TMDL the individual facility point source WLAs and aggregate nonpoint source LAs for each nonpoint source sector. EPA's preference is to further subdivide the load allocations into smaller geographic units that would facilitate implementation of other point and nonpoint source controls (i.e., conservation district, county, and/or watershed level suballocations). EPA Region III intends to work with the tidal states and DC to derive a scale of point and nonpoint source allocations that works best in each jurisdiction.

For non-tidal states (Pennsylvania, New York and West Virginia), EPA Regions II and III expect that revised tributary strategies prepared by these states will provide necessary transparency and specificity regarding the nature of the controls anticipated by the state to achieve any aggregate allocated loading limits specified by the TMDL. The extensive scientific understanding that has been developed in establishing this TMDL should provide an unprecedented opportunity for EPA and the non-tidal states to finely target specific pollutant controls and track their effectiveness in meeting water quality standards. The Regions expect that this information will inform the respective states' tributary strategies.

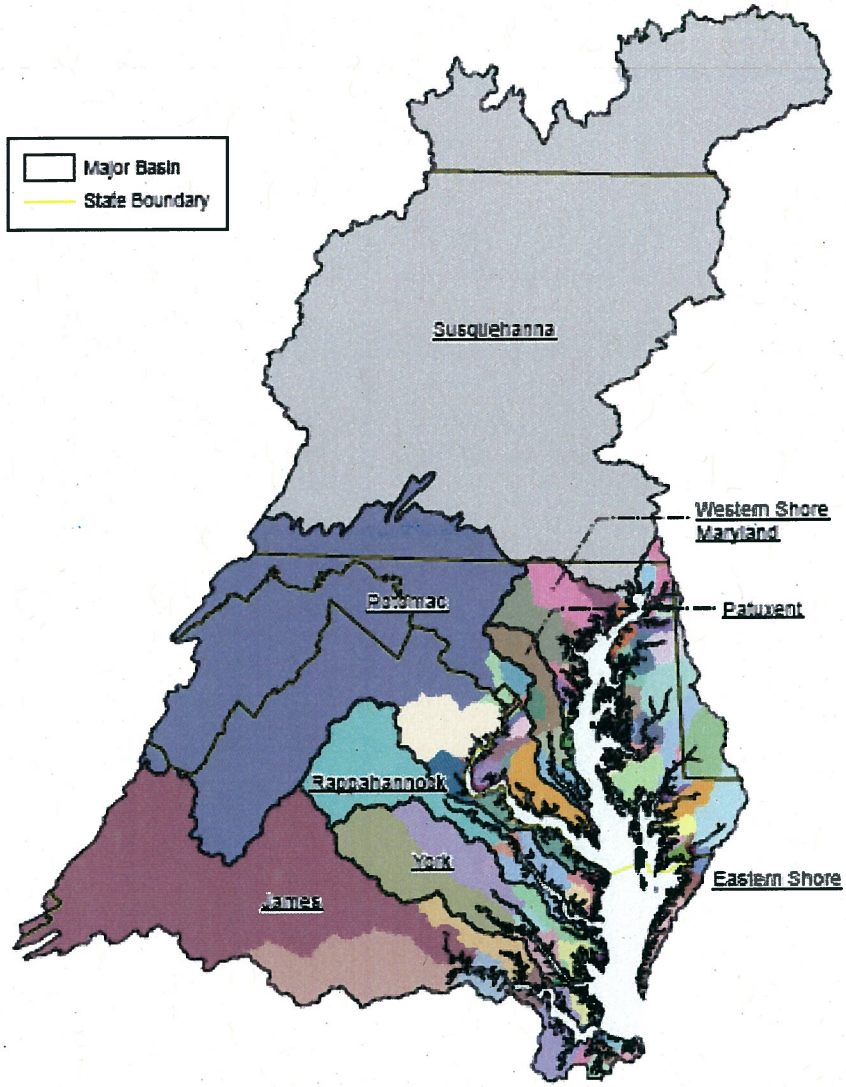
At a minimum, EPA Region III intends to establish gross WLAs and gross LAs for each major basin in the non-tidal states in the Bay TMDL. These gross allocations would be based upon the point and nonpoint controls identified in the respective state tributary strategy. EPA recognizes that tributary strategies prepared by our partner states should provide the needed transparency on the planned controls by the state to achieve their aggregate allocated loading. It will be necessary for each non-tidal state to provide, no later than June 2010, a detailed draft tributary strategy containing information on allocations to a level of detail similar to the tidal states. The Bay models will be utilized to confirm that the allocation of loadings is sufficient to attain water quality standards. If ongoing efforts to place point source nutrient controls in NPDES permits are found to be insufficient for a state, or at a state's request, EPA Regions II and III may include WLAs for individual sources within that state in the Bay TMDL... Regardless of how the allocations are established in the TMDL, the EPA Regions expect to include each state tributary strategy as an attachment to the TMDL as part of the record of decision supporting the TMDL allocations."[3]

EPA's expectations for the spatial resolution of the Bay TMDL's wasteload and load allocations have not changed. Further, it is important to note that the Bay jurisdictions have divided the tidal portions of the Chesapeake Bay, its tidal tributaries, and embayments into 92 segments for identification purposes under Section 303(d) of the Clean Water Act. When establishing the Bay TMDL, EPA intends to establish a separate TMDL for the area draining to each tidal water body segment identified on Maryland, Virginia, Delaware, and the District of Columbia's Clean Water Act Section 303(d) lists as impaired due to excess nutrient and sediment loadings, or that contribute to the impairment of other segments. These 92 303(d) segment drainage areas together comprise the entire Chesapeake Bay watershed. Accordingly, EPA intends to establish wasteload and load allocations for point and nonpoint sources of nutrients and sediment within the drainage area of each of these tidal segments, including segments which are not

[3] U.S. EPA (2008), Letter from Region 3 Administrator Donald Welsh to Secretary John Griffin, Maryland Department of Natural Resources, September 11, accessed at <http://archive.chesapeakebay.net/pubs/subcommittee/wqsc/EPA_Region_III_letter_to_PSC_091108.pdf>.

listed as impaired but whose nutrient and sediment loads are causing or contributing to the water quality impairment of other tidal segments. EPA also intends to establish load allocations for the atmospheric deposition of nitrogen to the watershed and tidal waters from air emission sources within and outside the watershed. EPA intends to assume nitrogen deposited from the atmosphere to the watershed within the allocations for the land uses and source sectors where it is deposited in the watershed. EPA intends to establish a separate load allocation for nitrogen deposited from the atmosphere directly to tidal waters. Figure A1 maps the drainage areas to the 92 tidal segments that together comprise the Chesapeake Bay and its tidal tributaries and embayments. Table A1 lists the eight major basins that together comprise the Chesapeake Bay watershed and the 303(d) segment drainage areas within each basin.

Figure A1. 303(d) Tidal Segment Drainage Areas within the Major Basins of the Chesapeake Bay Watershed



Shading denotes areas draining to the 92 303(d) segments that comprise the Chesapeake Bay and its tidal tributaries and embayments.

Table A1. Major Basins and 303(d) Tidal Segment Drainage Areas Comprising the Chesapeake Bay Watershed

Major River Basin	**Chesapeake Bay 303(d) Segment**
Susquehanna River Basin	Northern Chesapeake Bay (CB1TF) [a]
Western Shore Maryland	Bush River (BSHOH)
	Gunpowder River (GUNOH)
	Middle River (MIDOH)
	Back River (BACOH)
	Patapsco River (PATMH)
	Magothy River (MAGMH)
	Severn River (SEVMH)
	South River (SOUMH)
	Rhode River (RHDMH)
	West River (WSTMH)
	Northern Chesapeake Bay (CB1TF) [a]
	Upper Chesapeake Bay (CB2OH) [a]
	Upper Central Chesapeake Bay (CB3MH) [a]
	Middle Central Chesapeake Bay (CB4MH) [a]
	Lower Central Chesapeake Bay (CB5MH_MD) [a]
Patuxent River Basin	Upper Patuxent River (PAXTF)
	Western Branch Patuxent River (WBRTF)
	Middle Patuxent River (PAXOH)
	Lower Patuxent River (PAXMH)
	Lower Central Chesapeake Bay (CB5MH_MD) [a]
Potomac River Basin	Upper Potomac River (POTTF_MD)
	Upper Potomac River (POTTF_DC)
	Upper Potomac River (POTTF_VA)
	Anacostia River (ANATF_MD)
	Anacostia River (ANATF_DC)
	Piscataway Creek (PISTF)
	Mattawoman Creek (MATTF)
	Middle Potomac (POTOH1_MD)
	Middle Potomac (POTOH2_MD)
	Middle Potomac (POTOH3_MD)
	Middle Potomac (POTOH_VA)
	Lower Potomac (POTMH_MD)
	Lower Potomac (POTMH_VA)
	Lower Central Chesapeake Bay (CB5MH_VA) [a]
Rappahannock River Basin	Upper Rappahannock River (RPPTF)
	Middle Rappahannock River (RPPOH)
	Lower Rappahannock River (RPPMH)
	Corrotoman River (CRRMH)
	Lower Central Chesapeake Bay (CB5MH_VA) [a]
	Western Lower Chesapeake Bay (CB6PH) [a]
York River Basin	Upper Mattaponi River (MPNTF)
	Lower Mattaponi River (MPNOH)
	Upper Pamunkey River (PMKTF)
	Lower Pamunkey River (PMKOH)
	Middle York River (YRKMH)

	Lower York River (YRKPH)
	Mobjack Bay (MOBPH)
	Piankatank River (PIAMH)
	Western Lower Chesapeake Bay (CB6PH) [a]
James River Basin	Upper James River (JMSTF2)
	Upper James River (JMSTF1)
	Appomattox River (APPTF)
	Middle James River (JMSOH)
	Chickahominy River (CHKOH)
	Lower James River (JMSMH)
	Mouth of the James River (JMSPH)
	Mouth to mid-Elizabeth River (ELIPH)
	Lafayette River (LAFMH)
	Eastern Branch Elizabeth River (EBEMH)
	Southern Branch Elizabeth River (SBEMH)
	Western Branch Elizabeth River (WBEMH)
	Lynnhaven River (LYNPH)
	Mouth of Chesapeake Bay (CB8PH)
	Western Lower Chesapeake Bay (CB6PH) [a]
Eastern Shore	Northeast River (NORTF)
	Elk River (ELKOH)
	C&D Canal (C&DOH_DE)
	C&D Canal (C&DOH_MD)
	Bohemia River (BOHOH)
	Sassafras River (SASOH)
	Upper Chester River (CHSTF)
	Middle Chester River (CHSOH)
	Lower Chester River (CHSMH)
	Eastern Bay (EASMH)
	Upper Choptank River (CHOTF)
	Middle Choptank River (CHOOH)
	Lower Choptank River (CHOMH1)
	Mouth of the Choptank River (CHOMH2)
	Little Choptank River (LCHMH)
	Honga River (HNGMH)
	Fishing Bay (FSBMH)
	Upper Nanticoke River (NANTF_DE)
	Upper Nanticoke River (NANTF_MD)
	Middle Nanticoke River (NANOH)
	Lower Nanticoke River (NANMH)
	Wicomico River (WICMH)
	Manokin River (MANMH)
	Big Annemessex River (BIGMH)
	Upper Pocomoke River (POCTF)
	Middle Pocomoke River (POCOH_MD)
	Lower Pocomoke River (POCMH_MD)
	Tangier Sound (TANMH_MD)
	Middle Pocomoke River (POCOH_VA)

	Lower Pocomoke River (POCMH_VA)
	Tangier Sound (TANMH_VA)
	Northern Chesapeake Bay (CB1TF) [a]
	Upper Chesapeake Bay (CB2OH) [a]
	Upper Central Chesapeake Bay (CB3MH) [a]
	Middle Central Chesapeake Bay (CB4MH) [a]
	Lower Central Chesapeake Bay (CB5MH_MD) [a]
	Eastern Lower Chesapeake Bay (CB7PH)
[a] Denotes that more than one river basin flows into this tidal segment.	

ENCLOSURE B

EPA EXPECTATIONS FOR WATERSHED IMPLEMENTATION PLANS

This enclosure provides EPA's expectations for the Watershed Implementation Plans that EPA expects the six States within the Chesapeake Bay watershed and the District of Columbia will submit to inform EPA's establishment of the draft and final Total Maximum Daily Loads (TMDLs) for the 92 tidal segments of the Chesapeake Bay, its tidal tributaries, and embayments (the Bay TMDL). It also provides EPA's expectations that jurisdictions will submit updated Watershed Implementation Plans in draft and final by June 1, 2011, and November 1, 2011, respectively; two-year milestones covering the years 2012 to 2025; and Phase III Watershed Implementation Plans by 2017 that refine implementation efforts which will occur between 2018 and 2025.

Overview

The Watershed Implementation Plans (Plans) are the first element of a new accountability framework discussed in the *Executive Order 13508 Section 202(a) Report: The Next Generation of Tools and Actions to Restore Water Quality in the Chesapeake Bay* that EPA expects Chesapeake Bay States and the District to develop.[4] The second element of this framework is the milestones that will identify specific actions and controls to be implemented by the jurisdictions within two-year increments to reach the Chesapeake Executive Council's goal that all practices necessary for restored Bay water quality be in place as soon as possible but no later than 2025. These two-year milestones will result in nutrient and sediment reductions on schedule with targets identified in the Watershed Implementation Plans. If any of the six watershed States or the District do not develop Watershed Implementation Plans, identify two-year milestone commitments, and/or fulfill those commitments consistent with EPA's expectations, EPA will take appropriate independent action or "consequences" to ensure that the necessary water quality restoration and protection activities are carried out. EPA will discuss these potential actions in a separate letter to the Principals' Staff Committee to be released later this Fall.

EPA expects the Watershed Implementation Plans to identify a schedule to achieve nutrient and sediment reductions across all source sectors and areas draining to tidal 303(d) segments. These reductions must be sufficient to attain the states' Bay water quality standards for dissolved oxygen, water clarity, underwater bay grass acres, and chlorophyll *a*. EPA also expects the Plans to include dates for key actions and program enhancements that would result in pollutant reductions necessary to meet these water quality standards in the Bay. When establishing the TMDL wasteload and load allocations for the 92 tidal segments of the Chesapeake Bay, EPA will consider the amount of anticipated reductions by source sector and geographic area that the States and District identify in their Plans and the extent to which the Plans provide assurances that these reductions will be achieved and maintained. EPA expects jurisdictions to update their plans by November 1, 2011, to divide any wasteload allocations to aggregate point sources and load allocations to nonpoint sources among counties, conservation districts, sub-watersheds and facilities in order to help local partners better understand their contribution to the Bay restoration process. EPA is allowing an additional year for the development of these more specific local target loads to enable meaningful local engagement.

The Watershed Implementation Plans are consistent with the management plans contemplated by Section 117(g) of the Clean Water Act.[5] They also represent one element of a broader implementation and accountability framework that includes the States' and the District's commitment to enhance their programs and implement actions necessary to restore the Bay through a series of two-year milestones, as well as EPA's commitment to review and adopt federal consequences as necessary. Together, this broad accountability framework fulfills a major recommendation of the draft *Executive Order 13508 Section 202a Report: The Next Generation of Tools and Actions to Restore Water Quality in the Chesapeake Bay* and demonstrates assurance that TMDL allocations will be achieved and maintained.

Given the substantial efforts needed by all partners across all sectors to achieve the Bay TMDL allocations, EPA supports "staged" and "adaptive" implementation of the Chesapeake Bay TMDL. EPA expects that the Phase I and

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[4] U.S. EPA (2009), The Next Generation of Tools and Actions to Restore Water Quality in the Chesapeake Bay: A Draft Report Fulfilling Section 202(a) of Executive Order 13508, 1-2, accessed at <http://executiveorder.chesapeakebay.net>.

[5] Clean Water Act Section 117(g)(1).

Phase II Watershed Implementation Plans will contain greater specificity for implementation activities occurring between 2011 and 2017 than for implementation activities occurring between 2018 and 2025. However, EPA expects that the States and the District will update their Plans to provide greater specificity for future stages of implementation by 2017. The "Staged Implementation" section within this Enclosure further discusses EPA's expectations.

EPA does not expect these initial Watershed Implementation Plans to include lists of all the specific pollution reduction technologies and practices that will be implemented through 2025. The Agency recognizes that restoring clean water in the Bay and its surrounding watershed is a two-fold challenge: 1) increasing the implementation rate of existing practices; and 2) improving available pollution reduction technologies and practices. EPA does not expect the States and the District to specify which practices available in 2009 will be implemented in the later years leading up to 2025 given that new controls will become available over the next fifteen years. EPA does expect that by November 1, 2011, the Phase II Watershed Implementation Plans identify specific actions and controls that will be implemented by 2017. EPA expects States and the District to include this information in their Phase I Watershed Implementation Plans to the extent that it is available in 2010. Further, the milestones discussed above will include the two-year commitments to implement specific actions and controls necessary to meet the reduction schedule that jurisdictions identify in their Plans.

Basis for Watershed Implementation Plans

This section discusses the basis for EPA's expectation that the States and the District develop Watershed Implementation Plans. These Plans will, among other things, support a demonstration of reasonable assurance that the six watershed States and the District will achieve and maintain the nutrient and sediment allocations within the Chesapeake Bay TMDL. They also fulfill a primary recommendation of the *Executive Order 13508 Draft Section 202(a) Report: The Next Generation of Tools and Actions to Restore Water Quality in the Chesapeake Bay*. EPA's expectations are supported by, and consistent with, existing CWA authorities, the goals of the signatories to the *Chesapeake 2000* agreement,[6] the intent of Congress when it added Section 117(g) to the CWA in 2000, EPA's Chesapeake Action Plan submitted to Congress in 2008,[7] and the Chesapeake Bay Program's reorganization keyed to implementation of the *Chesapeake 2000* agreement goals.[8]

Clean Water Act Section 117(g)

EPA's expectation for Watershed Implementation Plans commitments is derived, in part, from Section 117(g) of the Clean Water Act. Section 117(g) directs the EPA Administrator, in coordination with other members of the Chesapeake Executive Council, to "ensure that management plans are developed and implementation is begun by signatories to the Chesapeake Bay agreement" to achieve the collective goals of Section 117(g) and the *Chesapeake 2000* agreement. These goals are summarized as:

1. Achieve and maintain water quality requirements necessary to restore the Bay, especially by reducing nitrogen and phosphorus loadings to the Bay;
2. Restore and protect the Bay's living resources;
3. Reduce or eliminate the input of toxic chemical contaminants;
4. Restore and protect the Bay's vital habitat, wetlands and riparian forests; and
5. Promote sound land use practices and stewardship.

The current signatories to the *Chesapeake 2000* agreement include EPA on behalf of the United States, Virginia, Maryland, Pennsylvania, the District of Columbia, and the Chesapeake Bay Commission. Consistent with Section 117(g), EPA expects these jurisdictions to develop Plans to achieve 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. While not signatories to past Chesapeake Bay agreements, the non-

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[6] Chesapeake Executive Council (2000), *Chesapeake 2000*, accessed at <http://www.chesapeakebay.net/content/publications/cbp_12081.PDF>.

[7] Chesapeake Bay Program Office (2008), *Strengthening the Management, Coordination and Accountability of the Chesapeake Bay Program*, Report to Congress (CBP/TRS-292-08), accessed at <http://cap.chesapeakebay.net/>.

[8] Chesapeake Bay Program Office (2009), *Chesapeake Bay Program Organizational Structure*, accessed at <http://www.chesapeakebay.net/committeeactivities.aspx?menuitem=14890>.

signatory states of West Virginia, Delaware, and New York have a long history of supporting Bay restoration goals and objectives. Most notably, the signatories and the non-signatory states committed to participate fully in achieving the nutrient and sediment reductions necessary to achieve the water quality goals of the *Chesapeake 2000* agreement by executing 2000 and 2002 Memoranda of Understanding with EPA.[9] More recently at the May 2009 Executive Council meeting,[10] all six States and the District adopted the first set of two-year milestones and committed that necessary restoration measures would be in place by no later than 2025. Accordingly, EPA expects that Plans and follow-up actions in the non-signatory States will also result in the necessary loading reductions.

Reasonable Assurance

Section 303(d) of the Clean Water Act requires that a TMDL be "established at a level necessary to implement the applicable water quality standard."[11] Federal regulations define a TMDL as "the sum of the individual [wasteload allocations] for point sources and [load allocations] for nonpoint sources and natural background."[12] Federal regulations also require that effluent limits in NPDES permits be consistent with "the assumptions and requirements of any available wasteload allocation" in an approved TMDL.[13]

When EPA establishes or approves a TMDL that allocates pollutant loads to both point and nonpoint sources, it determines whether there is a "reasonable assurance" that the nonpoint source load allocations will, in fact, be achieved and water quality standards attained. EPA does this to be sure that load allocations are not based on too generous assumptions regarding the amount of nonpoint source pollutant reductions that will occur. The wasteload allocations for point sources are determined based in part on the expected contributions to be made to pollutant reduction by nonpoint sources. If the reductions embodied in load allocations are not fully achieved because of a failure to fully implement needed nonpoint pollution controls, the collective reductions from point and nonpoint sources will not result in attainment of the water quality standards. As stated in guidance, a TMDL "should provide reasonable assurances" that nonpoint source controls will achieve expected load reductions in order for the TMDL to be approvable.[14]

The Bay TMDL calculations will assume pollutant reductions to both point and nonpoint sources to meet States' and

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[9] Memorandum of Understanding Among the State of Delaware, the District of Columbia, the State of Maryland, the State of New York, the Commonwealth of Pennsylvania, the Commonwealth of Virginia, the State of West Virginia, and the United States Environmental Protection Agency Regarding Cooperative Efforts for the Protection of the Chesapeake Bay and Its Rivers (2000-2002). In addition, the Chesapeake Bay Agreement 1992 Amendments look to "...cooperative working relationships with the other three basin states [New York, West Virginia and Delaware] in the development of tributary-specific strategies for nutrient reduction." In 2003, both signatory and non-signatory States executed the Chesapeake Executive Council Directive 03-02, Meeting Nutrient and Sediment Goals<http://www.chesapeakebay.net/content/publications/cbp_12611.pdf>. This Directive "reaffirm[ed] our commitment to complete the tributary strategies by April 2004 and commit[ed] to begin implementation immediately thereafter." In 2005, all six States, DC, EPA and CBC signed Chesapeake Executive Council Directive 04-02 - Meeting the Nutrient and Sediment Reduction Goals – Next Steps <http://www.chesapeakebay.net/content/publications/cbp_12588.pdf>. That Directive addressed nutrient reduction goals, tributary strategy implementation, and the roles of non-signatory States and USDA in the Chesapeake Bay Program and Partnership. The Directive also "reaffirm[ed] that the headwater [non-signatory] states may sign the Chesapeake Bay Agreement in its entirety, and thus become [Executive] Council members. In the meantime, they will continue to act as full partners with the signatory jurisdictions in carrying out this Directive and all other Chesapeake Bay Program initiatives designed to restore water quality." Finally, the non-signatory states have participated for many years in the Executive Council and Principals' Staff Committee discussions, activities and sub-committees. Delaware has adopted EPA-recommended water quality criteria and refined uses for its Bay tidal tributary waters.

[10] Chesapeake Executive Council (2009), *2011 Milestones for Reducing Nitrogen and Phosphorus*, accessed at <http://archive.chesapeakebay.net/pressrelease/EC_2009_allmilestones.pdf>.

[11] 33 U.S.C. 1313(d)(1)(C).

[12] 40 C.F.R 130.2(i).

[13] 40 C.F.R. 122.44(d)(1)(vii)(B).

[14] U.S. EPA (2002), *Guidelines for Reviewing TMDLs Under Existing Regulations Issued in 1992*, accessed at <http://www.epa.gov/owow/tmdl/guidance/final52002.html>.

the District's Bay water quality standards. Therefore, EPA expects the six watershed States and the District of Columbia to provide EPA with documented "reasonable assurance" that nonpoint source loading reductions will be achieved as a condition for reflecting such reductions in the calculations used to derive wasteload allocations. The sum of the wasteload and load allocations, including a margin of safety, will together comprise the Bay TMDL to meet water quality standards.

In the September 11, 2008, letter to the Chesapeake Bay Program Principals' Staff Committee, EPA announced its "heightened expectations for [the Bay TMDL's] ability to demonstrate that all nutrient and sediment allocations can and will be met."[15] EPA based these expectations upon the "unprecedented amount of work in the Bay prior to the development of the TMDL."[16] In the letter, EPA also established the expectations that the States and the District would develop revised tributary strategies or implementation plans, agree to meet specific, short-term milestones for implementing practices to achieve load reductions, and that the Agency may consider "additional measures" or consequences if jurisdictions do not fulfill their commitments. Since then, the Chesapeake Executive Council has committed to adopt two-year milestones for greater accountability and clearer measurement of progress towards long-term goals.[17] EPA continues to expect that jurisdictions' Watershed Implementation Plans, two-year milestones, and EPA's commitment to assess progress and take additional action or consequences as necessary will collectively provide the necessary assurances that the Chesapeake Bay TMDL nutrient and sediment allocations can and will be achieved.

EPA's expectations for development of Watershed Implementation Plans are uniform for all Bay jurisdictions, except in one respect. EPA expects the signatories to the *Chesapeake 2000* agreement, i.e., Maryland, Virginia, Pennsylvania, and the District of Columbia, to develop Plans to achieve needed nutrient and sediment reductions whose control actions are based on regulations, permits or otherwise enforceable agreements that apply to all major sources of these pollutants, including non-point sources. EPA does not necessarily expect Delaware, New York, and West Virginia to base all control actions identified in their Plans on such regulations, permits, or enforceable agreements, but nevertheless strongly encourages them to do so. This difference in expectations reflects, in part, the jurisdictions' different status as signatories (or not) of the *Chesapeake 2000* agreement and the implications of that status for EPA's expectations pursuant to CWA 117(g). Nonetheless, consistent with previous TMDL guidance, EPA expects that Plans and follow-up actions in the non-signatory States will also result in the necessary loading reductions. All States, including Delaware, New York, and West Virginia, are expected to demonstrate progress through two-year milestones.

Executive Order 13508: Chesapeake Bay Protection and Restoration

On May 12, 20009, President Obama signed *Executive Order 13508: Chesapeake Bay Protection and Restoration*, which established a heightened expectation for federal leadership to restore water quality in the Bay. The Executive Order tasked federal agencies with developing key recommendations for restoring this "national treasure." In September 2009, EPA released the draft *Section 202(a) Report: The Next Generation of Tools and Actions to Restore Water Quality in the Chesapeake Bay.* The draft report announces a new accountability framework to ensure necessary restoration measures are identified, committed to, implemented, and reported to the public. The report also introduces implementation plans that will identify enforceable or otherwise binding commitments from jurisdictions that signed the *Chesapeake 2000* agreement and programs capable of achieving equivalent reductions from non-signatory States in order to achieve necessary load reductions. The draft 202(a) report calls for two-year milestones to set near-term commitments and assess progress. Finally, the report identifies clean water goals as achieving and maintaining the Bay TMDL allocations for nutrients and sediment across source sectors.

Interim, Final, and Local Target loads

EPA expects the Watershed Implementation Plans to identify the final nutrient and sediment target loads for each of the eight major basins in each State or the District of Columbia necessary to meet the States' and District's

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[15] U.S. EPA (2008), Letter from Region 3 Administrator Donald Welsh to Secretary John Griffin, Maryland Department of Natural Resources, September 11, 1, accessed at <http://archive.chesapeakebay.net/pubs/subcommittee/wqsc/EPA_Region_III_letter_to_PSC_091108.pdf>.

[16] Ibid.

[17] These milestones will begin on January 1 of each even-numbered year and extend through December 31 of the subsequent odd-numbered year (e.g., January 1, 2012 through December 31, 2013).

Chesapeake Bay water quality standards. These target loads are based on detailed actions and controls that will be refined over the course of three phases of Watershed Implementation Plans which EPA expects the States and the District to submit in 2010, 2011, and 2017, respectively. Table B1 summarizes the elements described in this Enclosure that EPA expects to see in the Bay TMDL and in the three phases of the Watershed Implementation Plans. It is important to note that EPA retains the authority to establish finer scale wasteload allocations and load allocations within the Bay TMDL, including in situations where gross wasteload and load allocations might otherwise be adopted, if it does not receive adequate detail in the phases of the Watershed Implementation Plans to ensure that such gross wasteload and load allocations will be achieved.

In July 2009, EPA announced draft basinwide target loads that the Bay could receive from the watershed and meet water quality standards: 175 million pounds of nitrogen and 14.1 million pounds of phosphorus, annually. Based on subsequent analysis by EPA, the Principals' Staff Committee approved revising this target to 200 million pounds of nitrogen and 15 million pounds of phosphorus, annually, which includes an adequate margin of safety. On November 4, 2009, EPA distributed these revised preliminary nutrient target loads among the eight major basins and the jurisdictions within the Bay watershed based on recommendations from the Principals' Staff Committee. As the November 4 letter indicates, these working basin-jurisdiction target loads may change but are adequate for States and the District to use to start development of their Watershed Implementation Plans. Within the Phase I Watershed Implementation Plans submitted as preliminary, draft, and final by June 1, August 1, and November 1, 2010, respectively, EPA expects States and the District to further subdivide these basin target loads by source sector, including differentiating between sectors that are, or are not, regulated under the Clean Water Act, by individual (where possible), and, as necessary, aggregate point sources, and to the drainage area of each of the 92 303(d) segments. EPA will consider these source, sector and segment drainage target loads when establishing the draft and final TMDL wasteload and load allocations for each of the 92 303(d) segments that collectively constitute the Chesapeake Bay TMDL. Categories of point source loadings that EPA expects States and the District to distinguish within the Phase I Plans include: municipal wastewater facilities; industrial wastewater facilities; concentrated animal feeding operations (CAFOs); municipal stormwater within MS4 areas; industrial stormwater; and construction outside MS4 areas. To the extent possible, EPA expects States and the District to provide individual point source loads. Where necessary due to data limitations, EPA will accept aggregate loads for point sources (e.g., for nonsignicant wastewater facilities, CAFOs, and some stormwater sources). Categories of nonpoint source loadings that EPA expects States and the District to distinguish within the Phase I Plans include: non-CAFO agriculture; stormwater not covered by NPDES permits; onsite systems; and forest.

Table B1. Comparison of Elements within the Bay TMDL and Phases I – III Watershed Implementation Plans

	Bay TMDL [a]	**Phase I Plan** [a]	**Phase II Plan** [a]	**Phase III Plan** [a]
Individual or Aggregate WLAs and LAs to Tidal States [b]	✓			
Gross WLAs and LAs for Non-Tidal States [b, c]	✓			
Loads for individual point sources, or, if necessary, aggregate point sources		✓	✓	✓
Loads for nonpoint source sectors		✓	✓	✓
Actions and, to the extent possible, specific controls to achieve point source and nonpoint source target loads		✓	✓	✓
Point source and nonpoint source loads by local area			✓	✓
Specific controls and practices to be implemented by 2017		To extent possible	✓	
Refined point source and nonpoint source loads				✓
Specific controls and practices to be implemented by 2025				✓

Notes:
[a] Dates for developing or submitting Bay TMDL and Phases I – III Watershed Implementation Plans are included in Enclosure D.

[b] "Tidal States" include Maryland, Virginia, Delaware and the District of Columbia; "Non-Tidal States" include Pennsylvania, New York, and West Virginia. Unless otherwise noted, remaining elements apply to all States and the District of Columbia.
[c] EPA retains the authority to establish finer scale wasteload allocations and load allocations within the Bay TMDL if it does not receive adequate detail in the phases of the Watershed Implementation Plans.

Later, in the Phase II Watershed Implementation Plans, EPA expects the six States to divide final nonpoint source and aggregate point source target loads for the 92 303(d) segment drainage areas using a finer geographic scale such as a counties, conservation districts, sub-watersheds, or, where appropriate, individual sources or facilities. EPA expects the jurisdictions to identify these local target loads so that local stakeholders, including elected officials, conservation districts, planning staff, utilities, watershed associations, and citizen groups, can better understand their contribution to nutrient and sediment loads and their role in achieving the Bay's restoration goals. Local targets would also allow local decision-makers to more readily factor Bay water quality needs into their land use and capital planning processes. EPA expects the local targets to be used for planning purposes and does not intend to establish local targets as separate allocations within the Chesapeake Bay TMDL.

EPA understands 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 to quantify these local target loads within the Watershed Implementation Plans. EPA recognizes that the jurisdictions may pursue somewhat different approaches. In light of the importance of and necessary time to meaningfully conduct this local outreach and set finer scale target loads, EPA accepts that States and the District may submit Watershed Implementation Plans in multiple phases. Phase I, which will be submitted in preliminary, draft, and final form by June 1, August 1, and November 1, 2010, respectively, will describe the planned approach for distributing nutrient and sediment loads among local targets, including a plan and schedule for engaging local interests and a consideration of the scale at which pollutant control programs are implemented. For example, a State may indicate that it will set local targets at the county scale in order to align stormwater loads with stormwater management programs administered by counties.

EPA expects States and the District to submit a revised, Phase II Watershed Implementation Plan that includes a full description of each jurisdiction's approach as well as the specific nutrient and sediment target loads from point sources and nonpoint sources within each local area. Where appropriate, EPA expects States to identify nonpoint source loads that come from specific operations as well. EPA expects the Phase II Plans to also identify which loads from individual point sources first identified in the Phase I Plans are located in the smaller geographic areas. EPA expects jurisdictions to submit these Phase II Plans in draft by June 1, 2011, and in final by November 1, 2011, one year after the final Phase I Plan is submitted as part of the supporting documentation for the Bay TMDL. The Phase II Plan would precede and inform the first two-year milestone established after the TMDL. Enclosure D provides a schedule for the Bay TMDL, phased Watershed Implementation Plan, and two-year milestone development process.

In the case of allocations of loads from nonpoint sources to specific small geographic areas that contribute loads from nonpoint sources, including major facilities or sources where appropriate, EPA expects States and the District to select the scale of local targets based on the following considerations:

1. Scale facilitates engagement with local partners, facilities, or sources;
2. Scale is consistent with scale at which programs or actions identified in the Watershed Implementation Plans are delivered (e.g., cost-share programs administered through conservation districts; erosion and sediment control programs administered by counties; nonpoint source control programs delivered by watershed);
3. Partners exist at that scale who can be accountable for meeting local target goals; and
4. Chesapeake Bay Program models can track loads at the scale.

Figure B1 maps the drainage area to the 92 tidal segments of the Bay by county as an example of how jurisdictions might choose to establish local targets. EPA will work with jurisdictions to set and track target loads by sub-watershed if a jurisdiction can fulfill EPA's four considerations at that scale. If States, the District, or local partners request modeling assistance, it is important to note that EPA can provide current and target load estimates at scales other than those selected in the Phase II Watershed Implementation Plans. For example, if Watershed

Implementation Plans include county-scale targets to align with programs administered by counties and conservation districts, EPA can also provide model outputs by sub-watershed to inform the efforts of local watershed organizations.

Consistent with the Chesapeake Executive Council's goal adopted in May 2009, EPA expects the Watershed Implementation Plans to identify a schedule of key actions such as securing additional resources for program implementation or enacting additional regulatory authorities that will result in having all controls in place to meet the final nutrient and sediment target loads as soon as possible but by no later than 2025. EPA encourages States, the District, and local partners to distribute loads and identify key actions within their Plans and milestones that meet local needs and priorities as well as water quality standards in the Bay.

EPA recognizes that implementation of actions necessary to meet the States' and the District's water quality standards will take time and having all the necessary practices in place by 2025 represents a significant, widespread acceleration of Bay restoration activities. At the same time, the drainage areas of each of the 92 303(d) segments face differing load reduction challenges in terms of degree of reduction needed and the mix of point source permits and measures to reduce nonpoint sources. Watershed Implementation Plans should provide for expeditious implementation of all pollution controls, with the goal that some segment drainage areas will have all necessary practices in place prior to 2025, while recognizing that other areas will only be able to have all measures implemented by 2025. It is also important to note that where Clean Water Act discharge permits are the means of implementing pollution controls, States should make every effort to ensure that permits are renewed to be consistent with the Watershed Implementation Plans and Bay TMDL wasteload allocations as promptly after their expiration as possible.

Because successful Bay restoration will by necessity be an iterative and adaptive approach, EPA does not want to be overly prescriptive regarding the amount and types of pollution reduction controls, practices, technologies and resulting load reductions that must occur in each of the jurisdictions' two-year milestones. Some jurisdictions may want to implement "low-hanging," more attainable practices upfront, resulting in greater pollutant reductions in the near-term and a slower rate in the future as the most difficult practices and approaches are implemented. Other jurisdictions may need to engage in upfront capacity building, such as working with their legislatures to create new legal authorities or authorize greater resources for restoration efforts. Such an approach might involve fewer on-the-ground controls in the early years but result in substantial future implementation. EPA recognizes the wisdom in both approaches.

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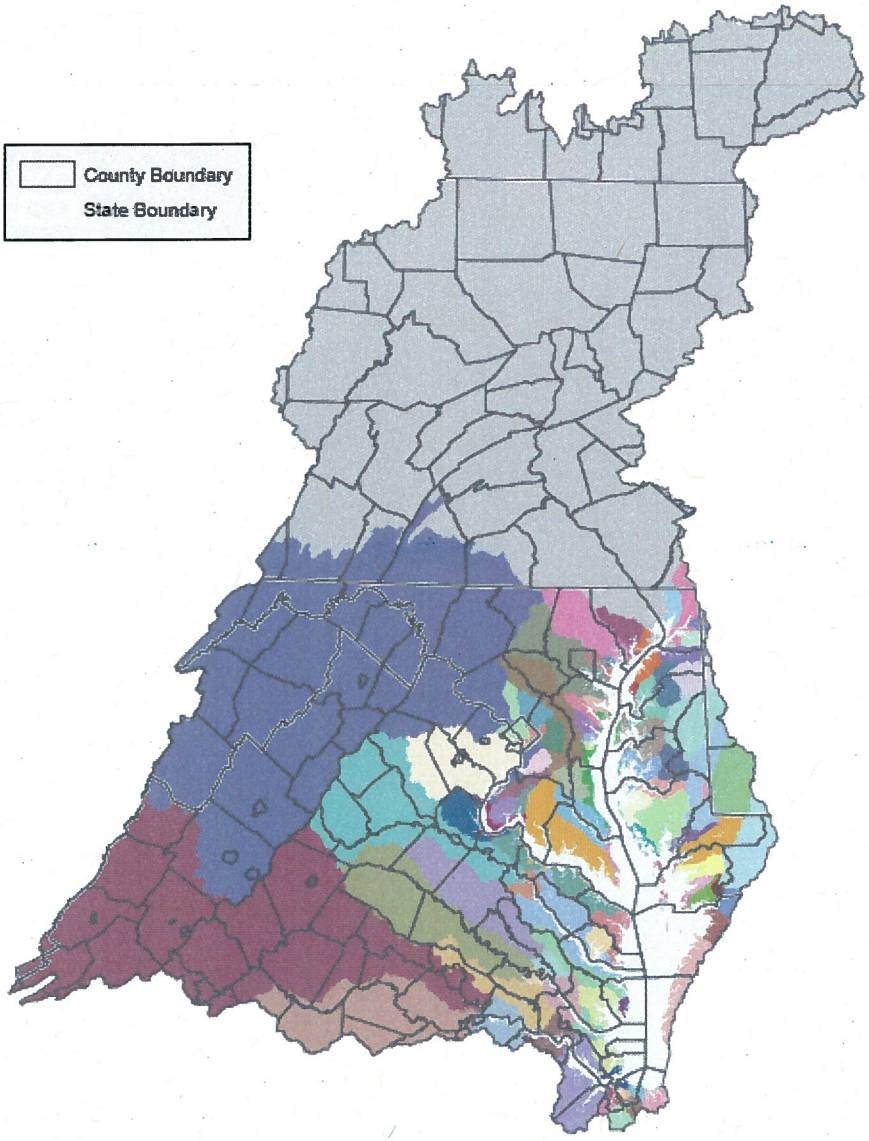
Figure B1. Drainage Area to the 92 Tidal Segments of the Bay, by County



Nevertheless, the Agency expects the States and the District to have controls in place by 2017 that would achieve at least 60% of the necessary reductions between nutrient and sediment loads delivered to the Bay in 2008 and final target loads that meet water quality standards. This "interim target load" provides the Agency and the public with a measure of assurance that the jurisdictions are on schedule to meet the 2025 goal. The Chesapeake Bay Program models also indicate that achieving 60% of nutrient and sediment reduction goals would result in the majority of impaired segments complying with States' and the District's dissolved oxygen water quality standards. Similar to the final target load, EPA expects the States and the District to include in their Watershed Implementation Plans how they will divide this intermediate target by source sector, segment drainage area, and, by November 2011, local area.

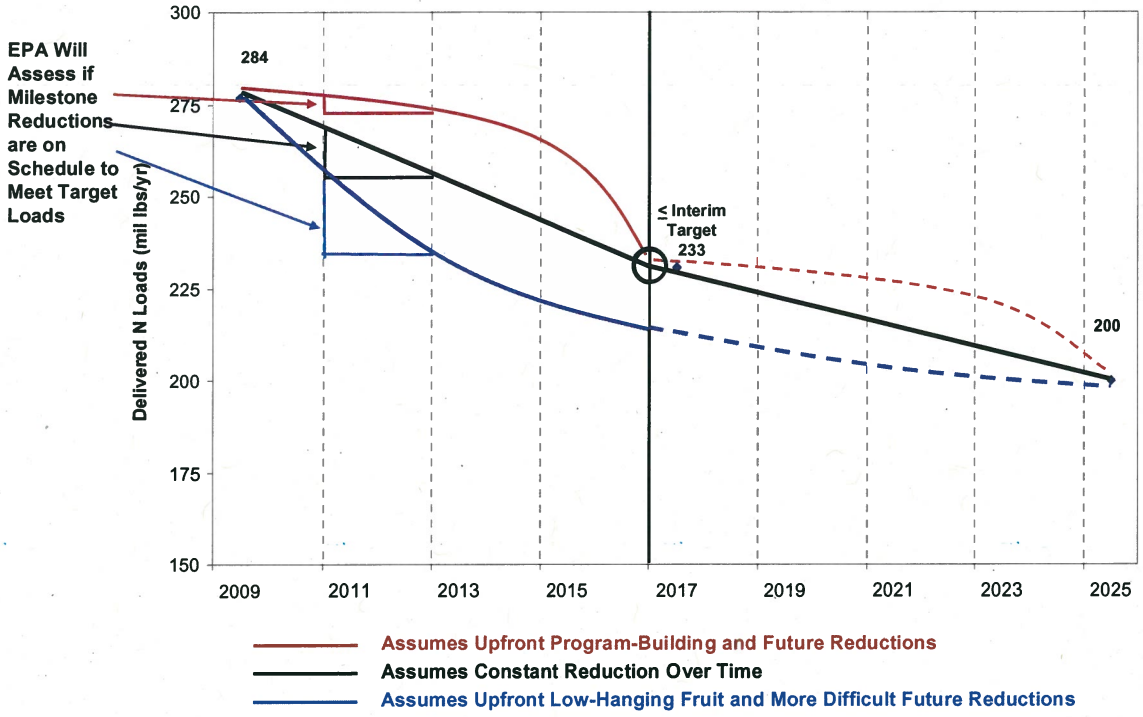
Phase 5.2 of the Chesapeake Bay Watershed Model estimates that loads delivered from the watershed to the Bay totaled 284 million pounds nitrogen and 16.3 million pounds phosphorus in 2008. EPA estimates that by 2025, nitrogen delivered to the Bay from the watershed will decrease by at least seven million pounds due to expected implementation of rules and standards under the Clean Air Act. The maximum amount of nutrients that the Bay can receive and still meet water quality standards is currently estimated as 200 million pounds nitrogen and 15 million pounds phosphorus. The basinwide interim annual target for 2017 is therefore 233 million pounds nitrogen and 15.5 million pounds phosphorus. If a State or the District can provide a robust documentation for why it could not meet

the 60% interim goal but could still implement all necessary practices by 2025, EPA would consider accepting that only 50% of necessary implementation would occur by 2017.

Figure B2 illustrates how an interim and final nitrogen target and schedule could appear in a Watershed Implementation Plan. In this Figure, the final target load corresponds to the basinwide target load that meets the States' Chesapeake Bay water quality standards. The lines connecting these points illustrate rationales for different reduction schedules that meet both the interim and final targets. The schedules are dashed between 2018 and 2025 to indicate future stages of implementation. The dashed vertical lines represent the two-year milestone dates at which EPA would assess whether jurisdictions are meeting short-term nutrient and sediment reduction targets identified in their upfront Watershed Implementation Plans.

Within the Watershed Implementation Plans, EPA expects the States and the District to subdivide loads by source sector, tidal Bay segment drainage area, and, by November 2011, local area only for the interim and final dates of 2017 and 2025, respectively. Within each successive two-year milestone, EPA expects the milestone target loads to be subdivided by source sector, tidal Bay segment drainage, and local area to clearly indicate specific actions and entities responsible for achieving short-term goals.

Figure B2. Basinwide Interim and Final Nitrogen Targets with Alternative Reduction Schedules

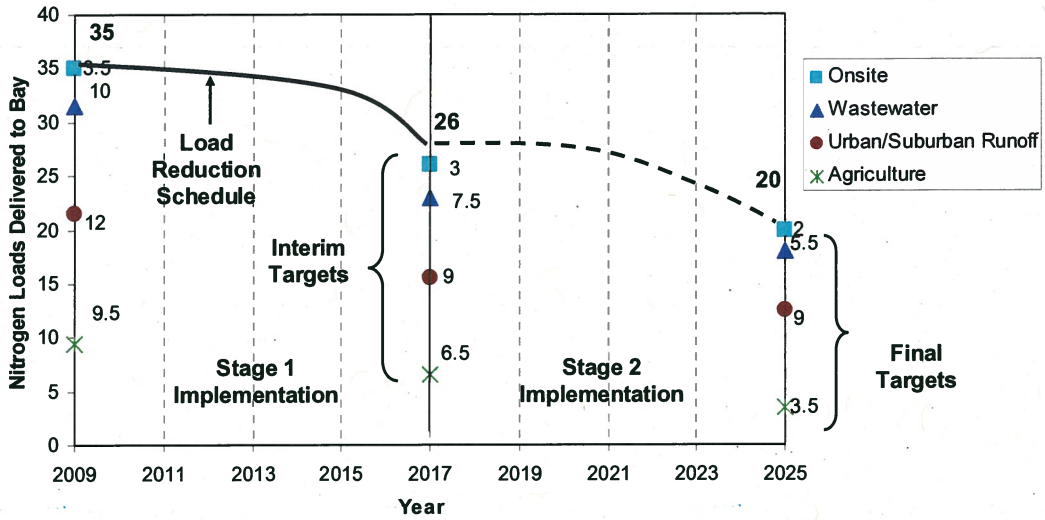


Note: 2008 load includes the seven million pounds of atmospheric nitrogen deposited on the watershed and delivered to the Bay that EPA estimates will be reduced by 2025 through implementation of rules and standards under the Clean Air Act.

Figures B3(i), (ii), and (iii), respectively, use hypothetical numbers to illustrate how a major basin within a state could set interim and final nitrogen target loads, divide these interim and final loads by (i) source sector, (ii) segment drainage area, and, by November 2011, (iii) local area, and set a schedule with key actions for meeting these targets at the scale of major basin within each jurisdiction. EPA understands that States and the District may, over time, shift loads among source sectors, basins, segment drainage areas, and local areas based on new information and changing conditions. Indeed, EPA encourages prioritization and targeting of resources. EPA supports such an adaptive approach as long as the jurisdictions' overall targets are met and water quality standards are achieved. See the "Format for Reporting Watershed Implementation Plan Outputs" section within this Enclosure for more details on how EPA expects these data to be presented.

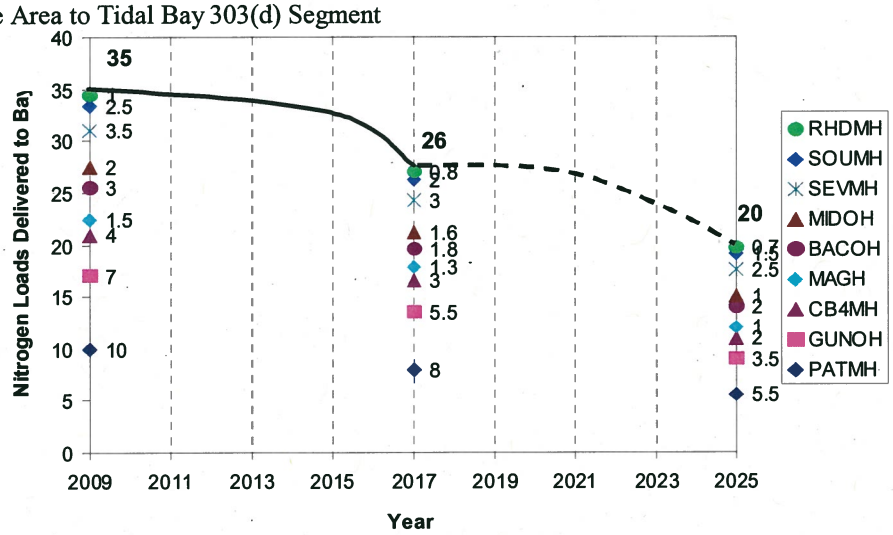
Figure B3. Hypothetical Illustration of Targets, Schedules, and Key Actions

i. By Source Sector



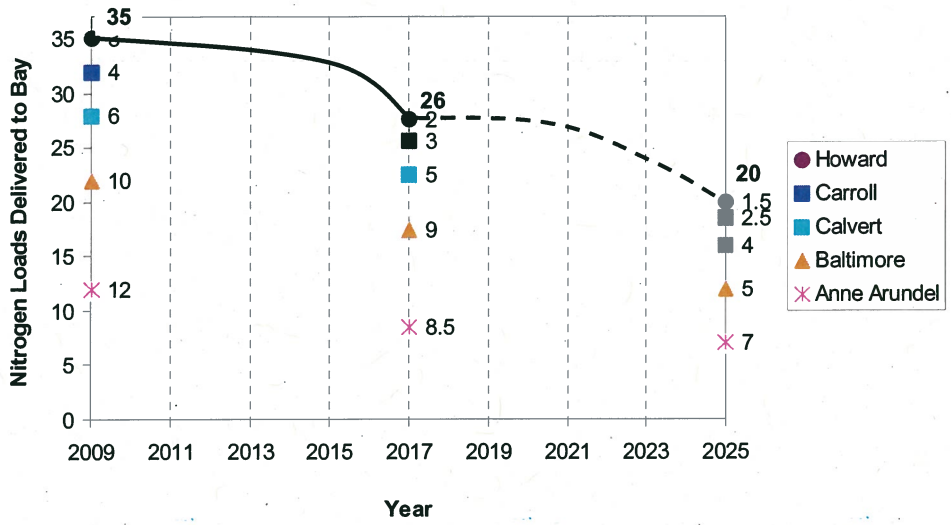
- Attaining specific jurisdiction-wide load reductions by the interim target would be required
- Jurisdiction would determine desired reduction schedule to meet load reduction
- EPA would first evaluate milestones based on whether consistent with jurisdiction target load. EPA accepts shifts among source sectors and basins as long as the jurisdiction target is met and local and Bay water quality goals are achieved.

ii. By Drainage Area to Tidal Bay 303(d) Segment



- Attaining jurisdiction-wide load reductions by the interim target would be required
- Jurisdiction would determine desired reduction schedule to meet load reduction
- EPA would first evaluate milestones based on whether consistent with jurisdiction target load. EPA accepts shifts among segment drainages and basins as long as jurisdiction target is met and local and Bay water quality goals are achieved

iii. By Local Area



- States may set local targets at a scale other than county if they can fulfill EPA's considerations for local areas. States not required to set local area target loads until November 1, 2011.
- Attaining specific, jurisdiction-wide load reductions by the interim target would be required
- Jurisdiction would determine desired reduction schedule to meet load reduction
- EPA would first evaluate milestones based on whether consistent with jurisdiction target load. EPA accepts shifts among basins and local areas as long as jurisdiction target is met and local and Bay water quality goals are achieved

Elements of a Watershed Implementation Plan

EPA expects the States and the District to include the following eight elements in their Watershed Implementation Plans.

1. Interim and Final Nutrient and Sediment Target Loads

EPA expects the States and the District to commit to meet the interim and final target loads for nutrients and sediments in the Bay. The Phase I Watershed Implementation Plans (to be submitted as preliminary, draft, and final by June 1, August 1, and November 1, 2010, respectively) are to subdivide those targets by the pollutant source sector within each of the 92 areas draining to Section 303(d) tidal water segments. Jurisdictions must also identify the amount and location of loads from individual (where possible) or, as necessary, aggregate point sources, within their Watershed Implementation Plans submitted in 2010. EPA expects the final target loads to be consistent with loads needed to achieve the water quality standards in the Bay. Assuming they are, EPA will consider this information when it establishes draft (by August 15, 2010) and final (by December 31, 2010) wasteload allocations for point sources and load allocations for nonpoint sources within each of the 92 303(d) segments of the Bay and its tidal tributaries and embayments in the Bay TMDL. EPA also expects Phase I Watershed Implementation Plans to include information for permit writers to issue permits for point sources that are consistent with individual, aggregate, or gross wasteload allocations, as follows. For significant wastewater facilities, EPA expects States and the District to include loads from individual facilities based on design flow and effluent limits. For nonsignificant municipal facilities, EPA expects States and the District to include effluent limits applicable to facilities in different ranges of design flow.[18] For nonsignificant industrial facilities, EPA expects jurisdictions to include appropriate

[18] States define a significant wastewater discharger as a facility that meets one of the following criteria:

- West Virginia, Delaware and New York: facility treating domestic wastewater and the design flow is greater than or equal to 0.4 million gallons per day (MGD)
- Pennsylvania: facility treating domestic wastewater and discharging greater than or equal to 0.4 MGD
- Maryland: facility treating domestic wastewater and the design flow is greater than or equal to 0.5 MGD

effluent limits and/or loading limits for nutrients and sediment. EPA encourages States and the District to estimate loads from individual MS4 areas, sites with industrial stormwater permits, and CAFOs. Where such estimates are not possible, EPA expects the States and the District to identify practices that it expects these permittees to implement so that a permit writer can incorporate into an MS4, industrial stormwater, construction, or CAFO permit.

As referenced in the previous section of this Enclosure, EPA expects the States and the District to submit updated, Phase II Watershed Implementation Plans in draft by June 1, 2011 and as final by November 1, 2011 that divide nonpoint source load allocations and any wasteload allocations for aggregate point sources among small geographic areas and facilities or sources where appropriate.

Moreover, EPA expects the Watershed Implementation Plans to indicate how the States and the District will have necessary controls in place to achieve the interim target load of at least 60% of necessary reductions by no later than 2017. EPA encourages the States to work with local decision-makers when establishing these targets, particularly within local areas, and in setting priorities in subsequent two-year milestones. EPA also expects Phase II Plans to identify specific controls and practices that jurisdictions and partners will implement by 2017 to meet interim target loads.

2. Current Loading Baseline and Program Capacity

EPA expects the States and the District to evaluate current legal, regulatory, programmatic, financial, staffing, and technical capacity to deliver the target loads established in the TMDL in their Phase I Watershed Implementation Plans.

To assist with this effort, EPA will provide estimates of current baseline nutrient and sediment loads delivered to the Bay, by source sector and major basin in November 2009, as well as other scenario outputs upon jurisdictions' request. Later in winter 2010, EPA can provide refined estimates that divide loads among the drainage areas of the 92 303(d) tidal segments. With this baseline information on current pollutant load levels, the reduction in loading that will be needed to attain the target loads within each major basin as well as for each 303(d) segment can be determined, after accounting for anticipated future growth (see section 3 below).

As part of their evaluation, the States and the District should consider whether additional reductions could be achieved with existing capacity. The evaluation of existing capacity should include programs and rules, a comprehensive assessment of current point source permitting/treatment upgrade schedules and funding programs, nonpoint source control funding, existing regulations and legislative authorities, and participation and compliance rates associated with existing permitting and incentive-based programs and regulations. EPA also expects the States and the District to identify any areas where lack of information prevents jurisdictions from understanding capacity and/or accounting for practices that result in load reductions.

3. Account for Growth

EPA expects the States and the District of Columbia to describe procedures for estimating additional loads due to growth and to provide EPA with information that will allow it to provide for pollution load reductions that are at least sufficient to offset the growth and development that is anticipated in the watershed between 2011 and 2025. For example, if baseline loading is 35 million pounds and the interim target is 25 million pounds, the projected reduction needed is 10 million pounds before accounting for anticipated growth. To account for growth in loadings by 2017 of 10 percent, the 10 percent increase (i.e., 3.5 million pounds) is added to the otherwise applicable

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- Virginia: facility treating domestic wastewater and the existing design flow is greater than or equal to 0.5 MGD west of the fall line or 0.1 MGD east of the fall line, as well as all new facilities greater than 40,000 gallons per day (GPD) or facilities expanding to greater than 40,000 GPD
- Across all seven jurisdictions: industrial facilities with a nutrient load equivalent to 3,800 total phosphorus (TP) lbs/year or 27,000 total nitrogen (TN) lbs/year
- Any other municipal and industrial facilities identified within a jurisdictional tributary strategy

Wastewater facilities not meeting any criteria above are considered non-significant municipal or industrial facilities.

reduction of 10 million pounds, resulting in a total, adjusted loading reduction of 13.5 million pounds needed to meet the interim load target.

In anticipating additional loading as a result of future growth, States and the District should project future loading growth based on existing trends in growth and loadings, unless specific new policies have been adopted to change past trends and the expected degree of change in trends resulting from the new policies is well documented. EPA encourages States and the District to make local decision-makers fully aware of their process for accounting for future growth as articulated in their Watershed Implementation Plans and tracked in their two-year milestones so that local partners may incorporate measures to minimize or offset future growth into land use and capital planning processes. The Chesapeake Bay Program Office can assist with this process by providing estimates of future population, land use, and pollutant loadings in 2025 if current trends continue.

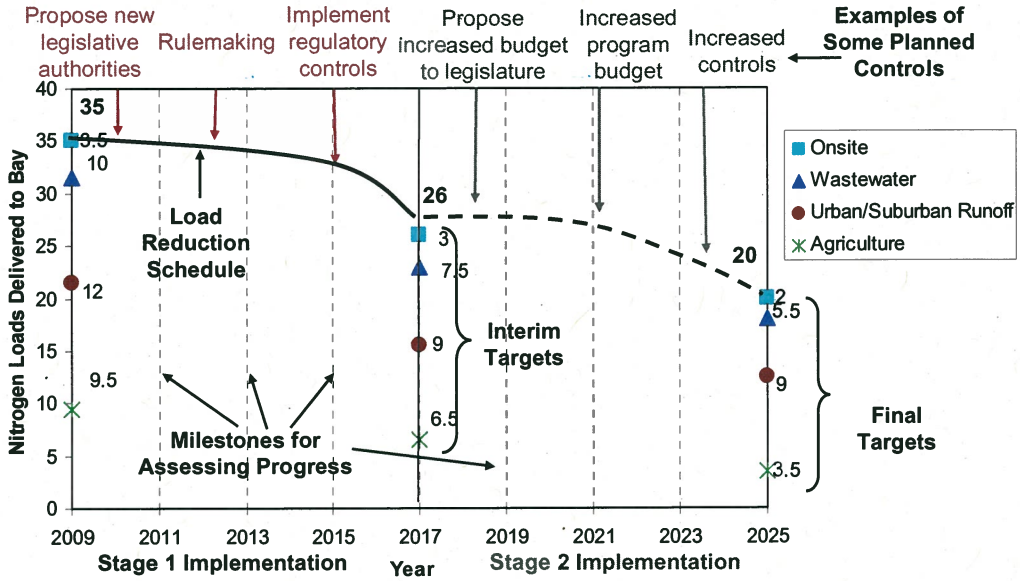
4. Gap Analysis

EPA expects States and the District to identify gaps between their current capacity (Element 2) 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 (Element 1). Necessary new capacity can include additional incentives, new or enhanced state or local regulatory programs, market-based tools, technical or financial assistance, and new legislative authorities. It may also include capacity from other federal agencies, local governments, the private sector, and/or non-governmental organizations.

5. Commitment and Strategy to Fill Gaps

EPA expects the States and the District to develop and commit to a strategy to systematically fill the gaps identified in Element 4 in their Phase I Watershed Implementation Plans. This commitment should include any new or enhanced policies, programs, authorities, and/or regulations that the jurisdiction intends to implement. EPA expects this element to include dates for key actions such as passage of new legislation, undertaking rulemakings, and/or authorizing new resources for greater implementation. States with multiple major basins within the Bay watershed should also identify key actions within specific basins and the dates for carrying out those actions. Within this element, EPA expects the States and the District to summarize for each major basin the key actions and corresponding dates that will contribute to the States' or the District's ability to meet interim and final target loads identified in Element 1. Figure B4 illustrates how EPA expects the States and the District to relate key actions to interim and final load targets and schedules in a particular basin. The Chesapeake Bay Program Office can assist with this element by helping the States and the District estimate the load reductions that could result from key actions, as well as estimates of load reductions that could result from possible federal actions.

Figure B4. Reduction Targets and Schedule, with Identification of Key Actions and Dates



- Also divide jurisdiction load by 303(d) segment drainage area and, by November 2011, local area
- Attain major basin/jurisdiction load reductions by the interim target, or justify why can still meet final target
- Jurisdiction would determine desired 2-year schedule to meet interim and final target loads
- EPA first evaluates milestones based on consistency with jurisdiction target load. EPA accepts shifts among source sectors, basins, segment drainages, and local areas if jurisdiction target load is met and local and Bay water quality goals are achieved

Within this element, EPA expects the States and the District to discuss plans to work with federal, local, private sector, and nonprofit partners to leverage capacity for achieving interim and final load targets. To the extent that the States and the District include anticipated actions by other partners in their Watershed Implementation Plan, they should provide assurance that partner-based capacity will be available and expected load reductions will occur. The States and the District should also identify contingency strategies if actions by partners, or by the State or the District itself, do not occur as planned. EPA encourages the States and the District to engage with its partners, and particularly local decision-makers, in the development of this element. EPA will provide assistance by describing federal actions that will result in reduced nutrient and sediment loads delivered to the Bay.

In order for EPA to have assurance that a policy, program, or action referenced in this element will result in the implementation of controls necessary to meet interim and final target loads by 2017 and 2025, respectively, EPA expects these policies, programs, or actions to include:

- **Enforceable or otherwise binding commitments** that controls will be, or are already being, implemented and maintained. Such a commitment could be a regulatory permit or an enforceable agreement such as a contract. Such contracts may be associated with voluntary, incentive-based program that specifies certain practices will be implemented by a particular date. When these contracts are entered into, they become enforceable in a court of law. EPA strongly encourages states that did not sign the *Chesapeake 2000* agreement but have committed to its water quality goals through a Memorandum of Understanding (Delaware, New York and West Virginia) to also adopt pollutant reduction programs or plans based on regulations, permits or enforceable agreements. However, for these states, EPA will accept alternate programs or plans provided EPA can be assured that they will result in necessary loading reductions and demonstrate progress toward the goals through two-year milestones.

- **Permits or contracts with quantifiable limits and milestones** that the States or the 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, as discussed in Element 4.

- **Documentation of historic participation and compliance rates** associated with existing programs and practices and successful nutrient and sediment management efforts. Jurisdictions should include measures and authorities to enhance these programs, including participation and compliance rates, to achieve necessary reductions discussed in Elements 3 and 4.

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

EPA can assist in the development of this element by providing estimates of how federal actions will contribute to load reductions.

EPA expects that Phase II Watershed Implementation Plans submitted in 2011 include additional detail on specific controls, technologies, and practices such as acres of farmland with next generation nutrient management plans and acres of impervious surface reductions that jurisdictions and partners commit to implement by 2017 in local areas to meet the interim target load. Subsequent two-year milestones will identify the number, type, and location of these actions and practices that jurisdiction and partners will implement in the near-term.

6. Tracking and Reporting Protocols

EPA expects the States and the District to include descriptions of efforts currently underway or planned to improve transparent and consistent monitoring, tracking, and reporting and assess the effectiveness of implementation actions. EPA and the States, the District, local governments, the private sector, and nongovernmental organizations will use these data to inform accountability and adaptive decision-making, and redirect management actions and resources. Specific efforts include the use of the National Environmental Information Exchange Network, or NEIEN, to seamlessly exchange information between existing federal, State or District databases and the suite of Chesapeake Bay Program models. EPA will use these tracking data and models along with ambient monitoring data to assess milestone commitments and progress. EPA also expects the States and the District to comply with policies for documenting and assuring any exchange of offsets among sources.

7. Contingencies for Slow or Incomplete Implementation

EPA expects the States' and the District's Watershed Implementation Plans to provide that, if the strategies outlined in Element 4 are not implemented, States and the District will adopt alternative measures resulting in equivalent reductions. For implementation actions proposed to occur between 2011 and 2017, the States and the District should provide an indication of what such contingency measures might entail. For example, if an enhanced cost-share program does not yield adequate participation and compliance rates, a State might agree to pursue enhanced authorities or new regulations to control loadings from that same source sector or another source sector.

8. Appendix with Detailed Targets and Schedule

EPA expects that the States and the District include within their Watershed Implementation Plans an appendix

detailing interim and final load targets for each tidal Bay segment drainage area, source sector, and, after November 2011, local area. EPA also expects this appendix to include a reduction schedule comprising the two-year target loads at the scale of each major basin within a State or the District. EPA expects the appendix schedule to reference the dates for key actions discussed in element 4. The two-year target loads in the upfront Watershed Implementation Plans will allow EPA to assess whether future two-year milestones are on schedule to meet interim and final water quality goals (see the "Assessment of Watershed Implementation Plans and Two-Year Milestones" section within this Enclosure).

Table B2 presents the format that EPA expects the States and the District to follow for submitting Phase I Watershed Implementation Plans outputs to the Chesapeake Bay Program Office prior to establishment of the draft and final TMDL in 2010. The Chesapeake Bay Program Office will run these outputs through the suite of Chesapeake Bay Program models to verify that reductions in the Watershed Implementation Plans are sufficient to achieve the States' and the District's Bay water quality standards. EPA will assume responsibility for the portion of required reductions from atmospheric deposition of nitrogen to the watershed that will result from federal and State air quality programs consistent with federal rules and regulations. The Agency is responsible for ensuring development of, and working with jurisdictions to implement, these rules and regulations through its own two-year milestones. EPA will also use these milestones to track reduced atmospheric deposition of nitrogen directly to tidal waters.

Table B3 presents the revised format that EPA expects the States and District to follow when they submit their Phase II Watershed Implementation Plans with local area target loads in draft by June 1, 2011, and in final by November 1, 2011. When the Scenario Builder tool for calculating the impact of management actions on nutrient and sediment loads delivered to the Chesapeake Bay becomes operational, EPA will provide a template for submitting specific practices, technologies, and controls to guide submission of data into the Chesapeake Bay Program models. States and the District may use this template to identify controls that will be implemented by 2017 to achieve the interim target load as well as specific two-year milestone commitments.

Staged Implementation

Prior to establishing a TMDL for the Chesapeake Bay, EPA expects to receive a demonstration of reasonable assurance from the six States and the District that target loads will be achieved and maintained. These target loads are to directly correspond to the wasteload and load allocations in the jurisdictions' Watershed Implementation Plans.

EPA recognizes that all partners and source sectors must contribute substantial efforts in order to meet Watershed Implementation Plan reduction schedules and achieve the Bay TMDL allocations. EPA therefore supports a "staged implementation" of the Chesapeake Bay TMDL. As EPA stated in the August 2006 memorandum, *Clarification Regarding "Phased" Total Maximum Daily Loads*, the term "staged implementation" refers to TMDLs in which implementation occurs in several distinct stages.[19] EPA expects that the jurisdictions' Watershed Implementation Plans submitted prior to Bay TMDL establishment will necessarily contain greater detail about the first stage of implementation, which would last from when the EPA establishes the TMDL until 2017. By the end of 2017, EPA expects that controls would be in place sufficient to meet interim target loads representing as much of the final target load as possible, but not less than 60% of the TMDL's total necessary reductions. The second stage of implementation would extend from 2018 to no later than 2025, when controls are implemented to reduce loads from interim to final target levels. EPA expects States and the District to update their Watershed Implementation Plans to describe the second stage of implementation by 2017.

[19] U.S. EPA (2006), *Clarification Regarding "Phased" Total Maximum Daily Loads*, Memorandum from Benita Best-Wong, Assessment and Watershed Protection Division, August 2, 5.

Table B2. Format for Submitting Phase I Watershed Implementation Plan Outputs to EPA for Verification[a]

St.	Maj. Basin	Impaired Segment Drainage	Unique Code	Source Sector[b]	Type[c]	NPDES Permit	2010 Ac.[d]	2008 Load[d]	2011[e]	2013[e]	2015[e]	2017 Interim Target[e]	2019 e, f	2021 e, f	2023 e, f	2025 Final Target/TMDL[e,f]
MD	W. Shore	PAXTF	MWPTF	Agriculture-CAFO	Agg. WLA											
				Agriculture-CAFO	Ind. WLA	MD356913										
				Agriculture	LA											
				Subtotal: Agriculture												
				Wastewater: POTW#1	Ind. WLA	MD012452										
				Wastewater: POTW#2	Ind. WLA	MD013943										
				Wastewater: Indus #1	Ind. WLA	MD821672										
				Wastewater: Indus #2	Ind. WLA	MD853653										
				Subtotal: Wastewater												
				Onsite	LA											
				Urb/Suburb Runoff: MS4	Agg. WLA	MD546195										
				Urb/Suburb Runoff: Non-MS4	LA											
				Urb/Suburb Runoff: MS4	Ind. WLA	MD892645										
				Industrial Stormwater	Agg. WLA											
				Industrial Stormwater	Ind. WLA	MD246139										
				Construction	Agg WLA											
				Subtotal: Urb/Suburb												
				Forest	LA											
MD	W. Shore	SEVMH	MWSeM	Agriculture-CAFO	Agg. WLA	MD382614										
				Agriculture	LA											
				Subtotal: Agriculture												
				Wastewater: POTW#1	Ind. WLA	MD083699										
				Wastewater: POTW#2	Ind. WLA	MD054732										
				Wastewater: Indus #1	Ind. WLA	MD836679										
				Wastewater: Indus #2	Ind. WLA	MD854469										
				Subtotal: Wastewater												
				Onsite	LA											
				Urb/Suburb Runoff: MS4	Agg. WLA	MD588578										
				Urb/Suburb Runoff: Non-MS4	LA											
				Subtotal: Urb/Suburb												
				Forest	LA											
	…															
MD	W. Shore			Reserve for Growth	WLA/LA											
MD	**W Shore**		**MW**	**Total**												

[a] Format allows jurisdictions to collapse and summarize loads by State/District, major basin within the State/District, source sector, regulatory status under NPDES program, or any combination thereof.

[b] Atmospheric deposition of nitrogen to the watershed is not listed as a separate source sector because its loads and reductions are assumed within the land uses and source sectors where it is deposited in the watershed (forest, agriculture, urban/suburban). EPA is accountable for ensuring that these assumed reductions occur due to development, implementation of, and compliance with rules and regulations under the federal Clean Air Act. The Chesapeake Bay Program Office (CBPO) will inform jurisdictions of what portion of a load reduction will occur as a result of decreased atmospheric deposition. The complete table will also include a separate row for loads from atmospheric deposition of nitrogen directly to tidal waters, for which EPA will also be held accountable.

[c] If requested, CBPO can provide assistance for dividing source sectors such as stormwater and agriculture among wasteload allocations (WLAs) and load allocations (LAs). In its September 11, 2008 letter to the Principals' Staff Committee, EPA stated that it will establish within the Bay TMDL individual wasteload allocations for significant wastewater facilities in the three States with tidal waters (MD, VA, DE) and the

District. EPA indicated that it could include loads from wastewater facilities in the three States without tidal waters (PA, NY, WV) as gross rather than individual wasteload allocations. However, EPA retains the authority to establish individual wasteload allocations to all significant wastewater facilities in the watershed if it so chooses. Where data allow, EPA may also establish individual wasteload allocations for MS4s and CAFOs.

[d] Blue indicates where CBPO will provide the States and the District with current loading numbers. If desired, CBPO could provide 2010 No Action, 1985, 2002, Tributary Strategy, and 2010 E3 loads and 2010 land use acres for each segment. CBPO could also provide initial interim and final targets if the States and the District request.

[e] Yellow indicates numbers EPA expects within the Watershed Implementation Plan. EPA expects the entire column of values, including gray, to be in that year's two-year milestone, although it will only assess these milestone details by source sector or local scale if the basin/jurisdiction total is greater than the basin/jurisdiction Watershed Implementation Plan total for that year.

[f] Loads for years after 2017 may be revised or refined based on the submission of Phase III Watershed Implementation Plans in 2017.

Table B3. Format for Submitting Phase II Watershed Implementation Plan Outputs to EPA for Verification[a]

St.	Maj. Basin	Impaired Segment Drainage	County[b]	Unique Code	Source Sector[c]	Type[d]	NPDES Permit	2010 Ac.[e]	2008 Load[e]	2011[f]	2013[f]	2015[f]	2017 Interim Target[f]	2019 [f, g]	2021 [f, g]	2023 [f, g]	2025 Final Target/ TMDL[f, g]
MD	W. Shore	PAXTF	Anne Arundel	MWPTFA	Agriculture-CAFO	Agg. WLA	MD356913										
					Agriculture-CAFO	Ind. WLA	MD356913										
					Agriculture	LA											
					Subtotal: Agriculture												
					Wastewater: POTW#1	Ind. WLA	MD012452										
					Wastewater: POTW#2	Ind. WLA	MD013943										
					Wastewater: Indus #1	Ind. WLA	MD821672										
					Wastewater: Indus #2	Ind. WLA	MD853653										
					Subtotal: Wastewater												
					Onsite	LA											
					Urb/Suburb Runoff: MS4	Agg. WLA	MD546195										
					Urb/Suburb Runoff: Non-MS4	LA											
					Urb/Suburb Runoff: MS4	Ind. WLA	MD892645										
					Industrial Stormwater	Agg. WLA											
					Industrial Stormwater	Ind. WLA	MD246139										
					Construction	Agg WLA											
					Subtotal: Urb/Suburb												
					Forest	LA											
MD	W. Shore	PAXTF	Howard	MWPTFH	Agriculture-CAFO	Agg. WLA	MD382614										
					Agriculture	LA											
					Subtotal: Agriculture												
					Wastewater: POTW#1	Ind. WLA	MD083699										
					Wastewater: POTW#2	Ind. WLA	MD054732										
					Wastewater: Indus #1	Ind. WLA	MD836679										
					Wastewater: Indus #2	Ind. WLA	MD854469										
					Subtotal: Wastewater												
					Onsite	LA											
					Urb/Suburb Runoff: MS4	Agg. WLA	MD588578										
					Urb/Suburb Runoff: Non-MS4	LA											
					Subtotal: Urb/Suburb												
					Forest	LA											
	…																
MD	W. Shore				Reserve for Growth	WLA/LA											
MD	W Shore			MW	Total												

[a] Format allows jurisdictions to collapse and summarize loads by State/District, major basin within the State/District, source sector, local scale, regulatory status under NPDES program, or any combination thereof.

[b] If States can meet EPA's criteria listed on page 13, they can set local targets at a separate scale such as sub-watershed. Local targets are for planning purposes and will not be separate allocations within the Bay TMDL.

[c] Atmospheric deposition of nitrogen to the watershed is not listed as a separate source sector because its loads and reductions are assumed within the land uses and source sectors where it is deposited in the watershed (forest, agriculture, urban/suburban). EPA is accountable for ensuring that these assumed reductions occur due to development, implementation of, and compliance with rules and regulations under the federal Clean Air Act. The Chesapeake Bay Program Office (CBPO) will inform jurisdictions of what portion of a load reduction will occur as a result of decreased atmospheric deposition. The complete table will also include a separate row for loads from atmospheric deposition of nitrogen directly to tidal waters, for which EPA will also be held accountable.

[d] If requested, CBPO can provide assistance for dividing source sectors such as stormwater and agriculture among wasteload allocations (WLAs) and load allocations (LAs). In its September 11, 2008 letter to the Principals' Staff Committee, EPA stated that it will establish within the Bay TMDL individual wasteload allocations for significant wastewater facilities in the three States with tidal waters (MD, VA, DE) and the District. EPA indicated that it could include loads from wastewater facilities in the three States without tidal waters (PA, NY, WV) as gross rather than individual wasteload allocations. However, EPA retains the authority to establish individual wasteload allocations to all significant wastewater facilities in the watershed if it so chooses. Where data allow, EPA may also establish individual wasteload allocations for MS4s and CAFOs.

[e] Blue indicates where CBPO will provide the States and the District with current loading numbers. If desired, CBPO could provide 2010 No Action, 1985, 2002, Tributary Strategy, and 2010 E3 loads and 2010 land use acres for each segment. CBPO could also provide initial interim and final targets if the States and the District request.

[f] Yellow indicates numbers EPA expects within the Watershed Implementation Plan. EPA expects the entire column of values, including gray, to be in that year's two-year milestone, although it will only assess these milestone details by source sector or local scale if the basin/jurisdiction total is greater than the basin/jurisdiction Watershed Implementation Plan total for that year.

[g] Loads for years after 2017 may be revised or refined based on the submission of Phase III Watershed Implementation Plans in 2017.

EPA expects that the States and the District might want to revise the schedule and source specific allocations for reducing nutrient and sediment loads delivered to the Bay from the major basin within each jurisdiction between 2018 and 2025. EPA intends to use these revised targets to assess future two-year milestones. Likewise, EPA would expect that jurisdictions may wish to shift final nutrient and sediment loads that would meet water quality standards among source sectors, drainage areas of 303(d) tidal segments, and local counties or subwatersheds. If States and the District make any adjustments, the Chesapeake Bay Program Office would expect to be able to assess and confirm that documented actions and reductions are sufficient to meet the overall TMDL and achieve the States' and the District's water quality standards.

Future adjustments to Plans and milestones based on changing conditions and the availability of new information are consistent with EPA's concept of "adaptive TMDL implementation." This term, also discussed in the 2006 EPA memorandum, refers to "an iterative implementation process that makes progress toward achieving water quality goals while using any new data and information to reduce uncertainty and adjust implementation activities."[20] EPA's expectation that the implementation of the Chesapeake Bay TMDL will be staged and adaptive is illustrated by the dashed reduction schedule between 2018 and 2025 in Figures B2 – B4.

Assessment of Watershed Implementation Plans and Two-Year Milestones

EPA will evaluate whether Watershed Implementation Plans meet the Agency's expectations based upon whether they contain all elements outlined in this document. EPA will also evaluate whether the target reductions by geographic location and source sector would achieve the States' water quality standards in the tidal Bay segments using the full suite of Chesapeake Bay Program models.

Enclosure C summarizes elements of the Watershed Implementation Plans and future two-year milestones. When assessing two-year milestone commitments, EPA intends to first evaluate whether the proposed actions, controls, and practices would result in estimated loads at the jurisdiction scale that are equal to or below the two-year milestone targets in the jurisdiction's Watershed Implementation Plan. If EPA's prospective assessment indicates that commitments would not achieve the Plan's milestone loads, EPA will identify which source sectors, basins, and local areas would not achieve reductions on schedule to meet that jurisdiction's interim and final target loads. EPA will then be in a position to decide what appropriate action to take. After a milestone period is complete, EPA would expect that model-estimated nutrient and sediment loads resulting from reported implementation would be at or below target loads at the jurisdiction scale. If modeled loads exceed target loads, EPA will identify which source sectors, basins, and/or counties or other local areas are not meeting milestone commitments. Again, EPA will be in a position to decide what appropriate action or consequences to adopt. Consistent with first assessing progress throughout the entire State or District of Columbia, EPA understands that source sector or local area targets may change over time from what jurisdictions identified in their upfront Watershed Implementation Plans. In fact, EPA encourages targeting of implementation efforts based on changing conditions, new information, and local priorities as long as the overall target load within the State or District is met and water quality standards are achieved. EPA encourages local partners to work together and with States and the District to meet these overall targets and achieve water quality standards while addressing local needs and pursuing cost-effective strategies.

[20] U.S. EPA (2006), *Clarification Regarding "Phased" Total Maximum Daily Loads*, Memorandum from Benita Best-Wong, Assessment and Watershed Protection Division, August 2, 4.

ENCLOSURE C

COMPARISON TO PAST PLANNING COMMITMENTS

The Chesapeake Bay Program partnership has been guided by a series of agreements, including *Chesapeake 2000*, that established goals for the health of the Bay and commitments to adopt restoration measures. Pursuant to the *Chesapeake 2000* agreement, the States and the District of Columbia developed tributary strategies detailing how they would implement actions necessary to achieve water quality goals.[21] Since that time, Bay Program partners have made some important progress to reduce nutrient pollution from agriculture and wastewater treatment plants. However, water quality monitoring and modeling indicate that efforts to date have been insufficient to achieve water quality goals.

The Watershed Implementation Plans and two-year milestones represent an implementation framework that EPA believes will be more successful than past efforts due to greater detail; ongoing accountability; and EPA's commitment to take appropriate follow-up action if progress toward specific targets is insufficient. Table C1 distinguishes the jurisdictions' Watershed Implementation Plans and forthcoming two-year milestones from previous strategies and goal-setting efforts.

Table C1. Comparison of Planning Commitments

	Tributary Strategy	2009 State Two-Year Milestones	Watershed Implementation Plans	Future Two-Year Milestones[a]
1) Scale of interim and final target loads	Basin and Source Sector-Specific	Statewide and Source Sector-Specific	Basin, Segment, Local,[b] and Source Sector-Specific	Basin, Segment, Local, and Source Sector-Specific
2) Nutrient and sediment reductions by sector, segment drainage and local area			✓	✓
3) Load reduction schedule that meets interim and final targets[c]			✓	✓
4) Identification of program gaps			✓	
5) Program enhancements (legal, funding,)		✓	✓ (with schedule)	✓
6) State/District contingencies		Limited	✓	✓
7) Account for growth by setting aside allocations or specifying how will offset			✓	✓
8) General description of planned pollutant controls	✓		✓	
9) Quantitative planned BMP controls	✓	✓		✓
10) Quantitative planned PS controls	✓	✓	✓	✓
11) Local/segment drainage location of reduction practices, controls, technologies				✓
12) Uniform, transparent and consistent tracking and reporting requirements			✓	✓

[a] Future two-year milestones refers to milestones starting with the years 2011-2013.
[b] Jurisdictions can update their Watershed Implementation Plans to include local area nutrient and sediment targets by November 1, 2011.
[c] Primary link between Watershed Implementation Plans and two-year Milestones for evaluation of adequate progress.

[21] Information on tributary strategies at <http://www.chesapeakebay.net/tributarystrategies.aspx?menuitem=19917>.

ENCLOSURE D

CHESAPEAKE BAY ACCOUNTABILITY FRAMEWORK SCHEDULE

Year	Date	Bay TMDL Development and Implementation	Watershed Implementation Plan	Two-Year Milestone
2009	Nov. 4	Partners agree to draft major basin by jurisdiction target nutrient loads	EPA releases Watershed Implementation Plan guidelines. States/District start Plan development	
	~Nov. 30		EPA releases explanation of EPA actions or consequences in event of failure to demonstrate adequate progress	
2010	Feb. 15	Finalize Phase 5.3 watershed and Bay water quality/sediment transport models		
	Apr. 30	Partners agree to draft watershed and tidal sediment target loads; potential changes to basin/jurisdiction nutrient target loads		
	June 1		Preliminary Phase I Plans by source sector and 303(d) segment drainage area submitted to EPA	
	June 2 - July 1	EPA works with jurisdictions to establish draft wasteload and load allocations	Revise Phase I Plans, as necessary	
	July 15	Chesapeake Bay Program Principals' Staff Committee reviews initial draft Bay TMDL and supporting Phase I Watershed Implementation Plans		
	Aug. 1		States, District submit draft Phase I Plans	
	Aug. 15	Draft Bay TMDL and supporting Phase I Watershed Implementation Plans released for 60-day public comment period		
	Nov. 1		States, District submit final Phase I Plans	
	Dec. 31	Final Bay TMDL and supporting Phase I Watershed Implementation Plans published		
2011	June 1		Draft Phase II Watershed Implementation Plan with local area targets and specific controls to meet interim target submitted to EPA	
	Nov. 1		Final Phase II Watershed Implementation Plan submitted to EPA	
2012	Jan. 1			First post-TMDL milestone starts
2017	Jan. 1		States/District submit Watershed Implementation Plans updated with 2018 – 2025 actions and controls	
	Dec. 31	States/District have controls in place to meet interim target load		
2018	Jan. 1	Second stage of TMDL implementation begins		
2025	Dec. 31	States/District have controls in place to meet final target load		