

Outcome: 2017 WIP, 2025 WIP and Water Quality Standards Attainment and Monitoring Outcomes

Goal: Water Quality

Outcome: 2017 WIP, 2025 WIP and Water Quality Standards Attainment and Monitoring

Long term Target: 100% by 2025

2 year Target: 60% by 2017

Management Approach 1: Phase I WIPs, Phase II WIPs, and Two-year Milestones

As the CBP partnership discussed during the development of the 2014 Watershed Agreement, the Water Quality Management Strategy reflects the Watershed Implementation Plans, and this work plan reflects the two-year milestones. Below, please find links to each of the Chesapeake Bay jurisdictions' draft 2016/2017 two-year programmatic milestones.

Delaware: http://www.dnrec.delaware.gov/swc/wa/Documents/ChesapeakePhaseIIWIP/Milestones/DE_DRAFT_Programmatic_Milestones_2017.pdf

District of Columbia: <http://doee.dc.gov/publication/two-year-milestones-region-iii-and-chesapeake-bay-program>

Maryland: http://www.mde.state.md.us/programs/Water/TMDL/TMDLImplementation/Pages/MD_Milestone_Goals_2016-2017.aspx

New York: http://www.dec.ny.gov/docs/water_pdf/nydraft17ms.pdf

Pennsylvania: <http://www.dep.state.pa.us/river/iwo/chesbay/docs/2016-2017EPAProgrammaticMilestonesPA2-8-16.pdf>

Virginia: http://www.epa.gov/sites/production/files/2016-02/documents/2016-2017_va_programmatic_milestone_goals.pdf

West Virginia: http://www.wvca.us/bay/files/bay_documents/1265_WV%202016%202017%20%20year%20milestones.pdf

Federal: <http://executiveorder.chesapeakebay.net/file.axd?file=2016%2f1%2f2016+2017+Federal+WQ+milestones+01+1516+edit.pdf>

Key Action** <i>Description of work/project. Define each major action step on its own row. Identify specific program that will be used to achieve action.</i>	Performance Target(s) <i>Identify incremental steps to achieve Key Action.</i>	Participating Entity <i>Identify responsible partner for each step.</i>	Geographic Location	Timeline <i>Identify completion date (month & year) for each step)</i>	Factors Influencing and/or Gap <i>Identify related factor or gap in Management Strategy</i>
	Approve each Bay jurisdictions' Best Management Practice verification program contained within the Clean Water Act Section 117 grant quality Assurance Project Plan	EPA	Chesapeake Bay Watershed and Jurisdictions	January-April 2016	1. Continue to sustain the capacity of the governments and the private sector to implement practices.

1. BMP Verification	Continually improve Verification Program and document changes in annual Verification QAPP updates	VA	Chesapeake Bay Watershed and Jurisdictions	Ongoing April 2016 - December 2017	2. Delivering the necessary financial capacity to implement practices and programs
	Implement agricultural BMP verification pilot project to test three different verification techniques.	WV	West Virginia	2016-2017	
	Implement agriculture BMP verification training program for staff	WV	West Virginia	2016-2017	3. Quantifying the reductions from pollution control practices and verifying for their continued performance
	Conduct BMP verification training for MS4s	WV	West Virginia	2016/2017	
	Test and implement enhanced tracking and verification program for urban stormwater	WV	West Virginia	2016-2017	
	DOEE has committed to revise and clean up the District's historic record of BMP implementation to aid in the recalibration of the revised CBPO watershed model. The first revision was submitted in October 2015. DOEE will revise and update the submission as needed based on CBPO feedback and validation reports.	DOEE	District of Columbia	2016	

	DOEE will perform a one-time BMP verification effort to update inspection and maintenance records and populate DOEE's new stormwater database.	DOEE	District of Columbia	2016	
	NRCS will continue to support voluntary actions by farmers and landowners to improve water quality by providing financial and technical assistance from the Environmental Quality Incentives Program (EQIP), Regional Conservation Partnership Program (RCPP), Agricultural Management Assistance (AMA) Program, Agricultural Conservation Easement Program (ACEP), Conservation Stewardship Program (CSP), and Conservation Technical Assistance (CTA) funds.	USDA	Chesapeake Bay Watershed and Jurisdictions	2016/2017	1. Continue to sustain the capacity of the governments and the private sector to implement practices.
	Pilot first incremental releases of Conservation Desktop that will enable resource inventory, integrate resource concerns, and integrate resource assessment and analysis tools in order to improve efficiency in conservation planning process.	USDA	Chesapeake Bay Watershed and Jurisdictions	2017	2. Delivering the necessary financial capacity to implement practices and programs

2. Provide support for continued BMD implementation, tracking and	Support the development and implementation of agricultural certainty programs in Bay watershed states.	USDA and State Agencies	Chesapeake Bay Watershed and Jurisdictions	2016/2017
	Coordinate lessons learned with Chesapeake Bay Program partners on the CEAP Chesapeake cropland studies (Part 1, Part 2, and the plans for Part 3 study) to discuss their utility for learning about the effectiveness of nutrient management on Chesapeake cropland and opportunities to fine-tune nutrient management to achieve the greatest water quality benefits.	NRCS	Chesapeake Bay Watershed and Jurisdictions	2016/2017
	USDA will develop pilot strategies to ensure that federal, state, and NGO conservation programs create mutually reinforcing incentives for producers to install and maintain riparian forest buffers	USDA	Chesapeake Bay Watershed and Jurisdictions	2016/2017
	Conduct animal feeding operation (AFO) reviews in on Bay sub-watershed	EPA	Chesapeake Bay Sub-Watershed	2016

BMP implementation, tracking and reporting on agricultural lands	Complete review of four CAFO permits and associated Nutrient Management Plans for each Bay jurisdiction	EPA	Chesapeake Bay Watershed and Jurisdictions	2016	
	Institute Phosphorus Management Tool: 1) Conduct a two year study (2015-2016) "PMT On-Farm Economic Analysis Project" to better understand outcomes and impacts of requirements. 2) Collect information to track operations according to the appropriate Tier that will govern PMT implementation schedule.	MD Dept of Ag	MD	2016/2017	Regulation took effect June 8, 2015, restricting all farms with phosphorus FIV levels over 500 from applying manure.
	Maintain Maryland historic level of Cover Crop acreage sign-up participation and certification	MD Dept of Ag	MD	2016/2017	
	Implement two rounds of Dairy Acceleration Program to cost-share farm business planning and CNMP development/updates for dairy farms with fewer than 300 cows	NY	NY	2016-2017	

	<p>Implement two rounds of NYS Agricultural Nonpoint Source Abatement and Control Program (AgNPS) for BMP implementation and two years of AEM Base Program for technical assistance by SWCDs</p>	<p>NY</p>	<p>NY</p>	<p>2016-2017</p>	
	<p>Continue to expand funding for implementation of the Virginia Agricultural Cost-Share program</p>	<p>VA</p>	<p>Virginia</p>	<p>2016/2016</p>	
	<p>Continue implementation of Resource Management Program (Virginia's Agricultural certainty program)</p>	<p>VA</p>	<p>Virginia</p>	<p>2016/2017</p>	
	<p>Continue implementation, tracking and reporting of BMPs for agriculture.</p>	<p>WV</p>	<p>West Virginia</p>	<p>2016/2017</p>	
<p>3. Provide support for continued BMP implementation, tracking and reporting in the urban stormwater sector</p>	<p>Propose draft District of Columbia MS4 permit for comment</p>	<p>EPA</p>	<p>District of Columbia</p>	<p>2016/2017</p>	<p>1. Continue to sustain the capacity of the governments and the private sector to implement practices.</p>

<p>Meet quarterly with Federal Agencies and the District of Columbia Department of Energy and Environment (DOEE) as part of the 2013 Memorandum of Understanding among EPA, DoD, NPS, and GSA regarding Federal Agency Stormwater Management in the District of Columbia.</p>	<p>NPS, GSA, DoD-Navy, GSA, EPA</p>	<p>District of Columbia</p>	<p>2016/2017</p>
<p>Reissue Construction General Permit (applicable to operators in the District of Columbia and the Federal operators in Delaware)</p>	<p>EPA</p>	<p>Delaware and District of Columbia</p>	<p>2017</p>
<p>Conduct oversight review and comment, per NPDES Memorandum of understanding, on draft state MS4 permits: to ensure consistency with the Bay TMDL allocations and the level of pollutant reduction called for in state WIPs; and to ensure permits contain enforceable performance measures.</p>	<p>EPA</p>	<p>Chesapeake Bay Watershed and Jurisdictions</p>	<p>2016/2017</p>

2. Delivering the necessary financial capacity to implement practices and programs

<p>Provide assistance to Virginia Department of Environmental Quality to review and comment on select TMDL action plans submitted by MS4 jurisdictions to evaluate if they have a schedule for implementing the necessary structural and non-structural controls and a final date to achieve the applicable waste load allocations.</p>	<p>EPA</p>	<p>Virginia</p>	<p>2016/2017</p>	
<p>Regulatory agency to receive, review, approve and report out on Maryland Phase I MS4 Financial Assurance Plans</p>	<p>MD Dept of Environment</p>	<p>Maryland</p>	<p>2016</p>	
<p>Continue to expand funding for implementation of stormwater BMPs through the Virginia Stormwater Local Assistance Fund and Virginia Conservation Assistance Program.</p>	<p>Virginia</p>	<p>Virginia</p>	<p>2016/2017</p>	
<p>Issue all remaining Phase I MS4 permits.</p>	<p>Virginia</p>	<p>Virginia</p>	<p>2016</p>	

Continue to comply with EISA Section 438 in accordance with DoD Policy. DoD will identify and share lessons learned, including stormwater benefits, costs, technical feasibility challenges, best management practices and the derived benefits.	DOD	DOD installations, where applicable	2016/2017
Work with federal agencies to acquire and report BMP implementation information (as outlined in the federal stormwater MOU)	DOEE	District of Columbia	2016/2017
Inspect all District of Columbia Municipal Separate Storm Sewer System (MS4) outfalls once within the MS4 5-year permit cycle.	DOEE	District of Columbia	2016/2017
Investigate all reported illicit discharges, spills, or releases to the MS4 or District Waters within 5 business days.	DOEE	District of Columbia	2016/2017

<p>Conduct a long term strategic investigation to identify, eliminate, and remediate pollution sources in the Hickey Run Sewershed to mitigate pollutant discharges to Hickey Run.</p>	<p>DOEE</p>	<p>District of Columbia</p>	<p>2016/2017</p>
<p>Conduct an inspection of facilities within the District covered by the National Pollution Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP) according to the EPA-Approved NPDES Compliance Monitoring Strategy.</p>	<p>DOEE</p>	<p>District of Columbia</p>	<p>2017</p>
<p>Assure compliance by all facilities deemed critical sources of stormwater pollution, including NPDES permitted facilities, for the protection of water quality through outreach and education, compliance assistance, and/or formal enforcement actions.</p>	<p>DOEE</p>	<p>District of Columbia</p>	<p>2017</p>
<p>Conduct an inspection of all industrial, commercial, institutional, municipal, and federal facilities deemed critical sources of stormwater pollution twice within the MS4 5-year permit cycle.</p>	<p>DOEE</p>	<p>District of Columbia</p>	<p>2017</p>

	Reduce or eliminate illicit connections and illicit discharges for the protection of water quality through outreach and education, compliance assistance and/or formal enforcement actions.	DOEE	District of Columbia	2016/2017	
	Continue implementation, tracking and reporting of BMPs for urban stormwater	WV	West Virginia	2016-2017	
	Issue final "baseline demonstration" technical memorandum setting forth EPA expectations for the Bay jurisdictions' offset and trading programs.	EPA	Chesapeake Bay Watershed and Jurisdictions	March 2016	
	Issue draft "MS4 and construction mitigation" technical memoranda setting forth EPA expectations for the Bay jurisdictions' offset and trading programs and explore means for addressing "interstate trading" considerations.	EPA	Chesapeake Bay Watershed and Jurisdictions	2016	
	Conduct update of previous 2012 trading and offset assessments for all jurisdictions	EPA	Chesapeake Bay Watershed and Jurisdictions	March 2016	

4. Guide development of jurisdictions' trading and offset programs	Conduct final sector load growth evaluation	EPA	Chesapeake Bay Watershed and Jurisdictions	June 2017	1. Delivering the necessary financial capacity to implement practices and programs
	Work with other Federal agencies to build capacity that will support an efficient and robust trading market	USDA, EPA, DOT	Chesapeake Bay Watershed	2016/2017	
	Update and consolidate Maryland nutrient trading policy	Maryland Departments of Agriculture and Environment	Maryland	2016	
	Regulations that establish the requirements and standards for the generation and certification of nutrient and sediment credits on agricultural land.	Maryland Department of Agriculture	Maryland	2016	
	Maintain offsets tracking and accountability system	WV	West Virginia	2016-2017	
	Consider, and if appropriate, approve offsets on a case-by-case basis.	WV	West Virginia	2016-2017	

	Complete development of Regulations for the Certification of Non-Point Source Nutrient Credits	Virginia	Virginia	2016	
	Propose draft Blue Plains NPDES permit for comment	EPA	Chesapeake Bay Watershed	2016/2017	1. Continue to sustain the capacity of the governments and the private sector to implement practices.
	Upgrade Major WWTPs to Enhanced Nutrient Removal (ENR) with State grant/loan support. A cumulative total of 63 to be upgraded out of 67 total goal.	Maryland Department of Environment	Maryland	2016/2017	
	Upgrade minor WWTPs to ENR with State grant/loan support. A cumulative total of 8 minor WWTPs will have completed construction (3 WWTPs are currently in operation).	Maryland Department of Environment	Maryland	2016/2017	
	Amend and reissue the General VPDES Watershed Permit for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia	Virginia	Virginia's Chesapeake Bay Watershed	2016/2017	2. Delivering the necessary financial capacity to implement practices and programs

5. Continue with Wastewater Treatment Plant & Septic upgrades and enhancements	Fully fund Virginia Water Quality Improvement Fund point source grant obligations for improvements to wastewater treatment plants.	Virginia	Virginia	2016/2017
	Compliance with total nitrogen effluent limit.	DC Water	District of Columbia	2016/2017
	Clean Rivers Project Long Term Control Plan submitted to EPA for approval.	DC Water	District of Columbia	2016
	DC Water has submitted an application for the renewal of Blue Plains NPDES permit. EPA's permit review for Blue Plains will take into consideration CSO loads (particularly for phosphorus and sediment) to ensure they remain within caps established by the Chesapeake Bay TMDL.	DC Water and EPA	District of Columbia	2016

	Finalize significant wastewater treatment plant upgrades so that all are compliant with TMDL wasteload allocations	WV	West Virginia	2016/2017	
	Report annual compliance on wastewater National Pollutant Discharge Elimination System (NPDES) permits and report any installed Enhanced Nutrient Removal (ENR) upgrades at DoD wastewater treatment facilities.	DOD	DOD installations, where applicable	2016/2017	
6. Provide permit and enforcement oversight across all sectors	Continue to implement enhanced oversight of facilities in the Chesapeake Bay watershed that are regulated by NY SPDES permits	NY	NY	2016-2017	1. Continue to sustain the capacity of the governments and the private sector to implement practices.
	Implement compliance monitoring plans for all permitted activities.	Virginia	Virginia	2016/2017	
	DOEE will submit an application to EPA Region 3 to renew the District's MS4 permit	DOEE	District of Columbia	2016/2017	

	DOEE published the draft Consolidated TMDL IP for public comment in 2015. DOEE is developing a response to comments and revised TMDL IP, and will implement the TMDL IP upon EPA approval.	DOEE	District of Columbia	2016/2017	
7. Provide guidance and tools to support continued BMP implementation, tracking and reporting across all source sectors.	Deliver final Phase III WIP Stakeholder Assessment Report to the CBP partnership to help inform the Phase III WIP expectations development process.	EPA	Chesapeake Bay Watershed and Jurisdictions	2016	1. Enhancing the next generation of decision support tools (Phase 6)
	Provide final Phase III WIP expectations to the jurisdictions	EPA	Chesapeake Bay Watershed and Jurisdictions	June 2017	2. Reviewing and updating historical implementation data that has been submitted by the jurisdictions to the CBP partnership, confirming that BMPs are still in place and ensuring that accurate information is included in the modeling tools.
	Identify and map all federal landholdings in the Chesapeake Bay Watershed using Federal Facilities Editor Tool in order to inform the CBP Phase 6 Watershed Model.	EPA, USGS, federal agency partners	All federal landholdings in the Chesapeake Bay Watershed	2016	3. Delivering the necessary financial capacity to implement practices and programs.

<p>All Federal agencies with Federal lands and facilities which received 2017 and 2025 pollution reduction targets from EPA and the Bay jurisdictions are to ensure that practices are in place to achieve an equivalent 60% reduction by the end of 2017 as described in the 2015 Protocol for Setting Targets, Planning BMPs and Reporting Progress for Federal Facilities and Lands.</p>	<p>Multiple Federal Agencies</p>	<p>All federal landholdings in the Chesapeake Bay Watershed</p>	<p>2017</p>
<p>Ensure BayFAST is enhanced to improve the usability of the tool by the users and its functionality in supporting annual progress reporting.</p>	<p>EPA</p>	<p>Chesapeake Bay Watershed and Jurisdictions</p>	<p>2016/2017</p>
<p>Continue to participate in jurisdictions' WIP processes by providing installation information and disseminating jurisdiction information throughout DoD to support effective implementation of future Phase III WIP expectations</p>	<p>DoD</p>	<p>DoD landholdings in the Chesapeake Bay Watershed</p>	<p>2016/2017</p>

Develop digital land use and boundary data for USACE properties in the Chesapeake Bay watershed.	USACE	USACE landholdings in the Chesapeake Bay Watershed	2016/2017
Assess existing and future BMPs for USACE properties in the Chesapeake Bay Watershed	USACE	USACE landholdings in the Chesapeake Bay Watershed	2016/2017
Provide financial support to Bay jurisdictions, as authorized, through EPA's assistance programs including CWA Section 319, CWA 117 CBIG and CBRAP	EPA	Chesapeake Bay Watershed and Jurisdictions	2016/2017
Provide financial support to localities and other entities through the innovative Nutrient and Sediment Reduction Grants and the Small Watershed Grants, as authorized.	EPA	Chesapeake Bay Watershed and Jurisdictions	2016/2017

<p>Develop enhancements to Chesapeake Assessment and Scenario Tool (CAST) to incorporate optimization functions to assist jurisdictions in developing implementation plans that minimize costs and maximize benefits.</p>	<p>EPA and Bay Partnership</p>	<p>Chesapeake Bay Watershed</p>	<p>2016/2017</p>
<p>Work with GIT to consider policy changes or legislative actions identified by the GIT.</p>	<p>CBC</p>	<p>PA, MD, VA</p>	<p>Ongoing</p>
<p>DoD will continue to participate in and chair the Federal Facilities Workgroup to enhance collaborative efforts with the Chesapeake Bay Program Partnership, meeting at least quarterly with EPA and Jurisdictions for collaboration in developing/assessing reporting mechanisms.</p>	<p>DOD</p>	<p>DoD installations where applicable</p>	<p>2016/2017</p>

<p>DoD will support to the extent practicable the 'Protocol for Setting Targets, Planning BMPs, and Reporting Progress for Federal Facilities and Lands' and identify approaches to track reductions from regulated and non-regulated land uses. DoD installations will continue to project future BMPs and use BayFAST or other reporting mechanisms for implementation planning.</p>	<p>DOD</p>	<p>DoD installations where applicable</p>	<p>2016/2017</p>
<p>Continue to participate in jurisdictions' WIP processes by providing installation information and disseminating jurisdiction information throughout DoD to support effective implementation of future Phase III WIP expectations.</p>	<p>DOD</p>	<p>DoD installations where applicable</p>	<p>2016/2017</p>
<p>Report Annual BMP implementation progress by December 1st each year for simulation through the Chesapeake Bay Watershed Model. Results used to assess progress toward achieving Milestones and 2017 60% reduction goal.</p>	<p>Bay Jurisdictions</p>	<p>Chesapeake Bay Watershed and Jurisdictions</p>	<p>2016/2017</p>

Management Approach 2: Enhancing Monitoring

Key Action** <i>Description of work/project. Define each major action step on its own row. Identify specific program that will be used to achieve action.</i>	Performance Target(s) <i>Identify incremental steps to achieve Key Action.</i>	Participating Entity <i>Identify responsible partner for each step.</i>	Geographic Location	Timeline <i>Identify completion date (month & year) for each step</i>	Factors Influencing and/or Gap <i>Identify related factor or gap in Management Strategy</i>
1. Continue work to improve temporal and regional patterns in water quality criteria attainment in tidal and non-tidal waters.	Summarize patterns in water-quality criteria attainment over time in tidal waters from 1985-2014	CBP Monitoring Team; UMCES	Tidal water areas of the Chesapeake Bay Watershed	June, 2016	1. Understanding the factors affecting the ecosystem response to pollutant load reductions to focus management efforts and strategies 2. Factoring in effects from from continued climate change 3. Examining the impact the lower Susquehanna dams have on the pollutant loads to the Bay, including changes over time
	Provide an update describing temporal and regional patterns in water quality standards attainment of dissolved oxygen, water clarity/SAV and chlorophyll.	CBP Monitoring Team; UMCES	Chesapeake Bay Watershed and jurisdictions	December, 2016	
	Publish a new Ambient Water Quality Criteria Technical Addendum that provides updated guidance on water quality standards attainment assessment methods for the tidal bay jurisdictions	CBP Monitoring Team; USGS	Tidal water areas of the Chesapeake Bay Watershed jurisdictions	December, 2016	

	Implement new process for quantifying trends in tidal water-quality parameters. The new process incorporates advances in methods to provide more information on trends in water-quality patterns over time.	UMCES/EPA, MD DNR, VADEQ	Tidal water areas of the Chesapeake Bay Watershed	Annually in 2016/2017	
2. Conduct Lower Susquehanna River Integrated Sediment and Nutrient Monitoring Program	Water quality results attained from 2 of the 6 high flow events assessed in April 2015 will be submitted to the CBP to be included in the 2017 CB Mid Point Assessment	MD DNR, UMCES, USGS, with Exelon	Lower Susquehanna River, Conowingo Dam	2017	1. Examining the impact the lower Susquehanna dams have on the pollutant loads to the Bay, including changes over time
	Monitor any high flow event of greater than 100,000 cfs at Conowingo Dam occurring before May 30, 2016			On/before May 30, 2016	
	Develop alternative monitoring plans to gather sufficient information to inform Conowingo impacts on Bay water quality standards now that it has reached "dynamic equilibrium" in the event than less that 6 high flow events occur before May 30, 2016			On/before May 30, 2016	

3. Coordinate the CBP non-tidal water-quality network	The partners in the network will collect nutrient and sediment samples from over 125 sites throughout the watershed.	USGS, EPA, MD DNR, VA DEQ, DEREK, WV DNR, PA, DC, DC, NY, SRBC	Non-tidal water areas of the Chesapeake Bay watershed	2016-2017	1. Understanding the factors affecting the ecosystem response to pollutant load reductions to focus management efforts and strategies 2. Improving the identification of sources and their contributions to nitrogen, phosphorus and sediment pollutant loads
	The USGS will work with the partners to compile quality assure the information to update loads and trends.	USGS, EPA, MD DNR, VA DEQ, DEREK, WV DNR, PA, DC, DC, NY, SRBC		2016-2017	
	USGS will completely update the reporting of loads to the Bay and trends of nutrients and sediment loads in the watershed; revised products will be prepared to communicate these results.	USGS		2016	

	<p>Expand upon the water quality-focused Building Environmental Intelligence report to a new process to address additional monitoring needs associated with the 2014 Chesapeake Bay Agreement. Integrate the role of Citizen Science to address gaps in water quality-related monitoring and assessment needs. Work with partners and Management Board to consider and attempt to implement recommendations.</p>	<p>CBP Monitoring Team</p>	<p>Chesapeake Bay Watershed and jurisdictions</p>		
<p>4. Addressing gaps in monitoring programs</p>	<p>Coordinate and integrate Citizens Monitoring effort funded by the Chesapeake Bay Program. Develop high quality citizens monitoring programs to assess water quality standards. Target areas where implementation will potentially show progress.</p>	<p>CBP monitoring team, Alliance for the Chesapeake Bay (ACB), Isaac Walton League</p>	<p>Chesapeake Bay Watershed and jurisdictions</p>	<p>2016-2017</p>	<p>1. Delivering the necessary financial capacity to implement practices and programs</p>

	Develop strategy to target shallow water monitoring program with limited resources. Incorporate all spatially and temporally intensive monitoring results into Bay water quality standards attainment.	MD DNR, CBP monitoring team	Shallow water areas of the Chesapeake Bay Watershed		
Management Approach 3: Bay TMDL Midpoint Assessment					
Key Action** <i>Description of work/project. Define each major action step on its own row. Identify specific program that will be used to achieve action.</i>	Performance Target(s) <i>Identify incremental steps to achieve Key Action.</i>	Participating Entity <i>Identify responsible partner for each step.</i>	Geographic Location	Timeline <i>Identify completion date (month & year) for each step)</i>	Factors Influencing and/or Gap <i>Identify related factor or gap in Management Strategy</i>
1. Develop and apply new approaches for quantifying and explaining water-quality trends in tidal waters.	Test watershed factors influencing water-quality trends in tidal waters.	CBP monitoring team, UMCES, USGS and other academic partners	Tidal water areas of the Chesapeake Bay Watershed	2016-2017	1. Improving the identification of sources and their contributions to nitrogen, phosphorus and sediment pollutant loads.
	Release of a report and communication products regarding nitrogen sources and transport processes in smaller agricultural and urban watersheds.		Agricultural and urban watersheds in the Chesapeake Bay Watershed		1. Improving the identification of sources and their contributions to nitrogen, phosphorus and sediment pollutant loads.

2. Explain the drivers of water-quality trends in the watershed.	Compare observed and expected trends in the watershed and relation to management actions.	USGS, JHU, CBP modeling team	Chesapeake Bay Watershed and jurisdictions	2016-2017	2. Factoring in effects from continued climate change
	Improve knowledge of sediment and nitrogen sources and residence times.		Chesapeake Bay Watershed and jurisdictions		
	Utilize empirical, historical and current water quality data to assess Pennsylvania's progress towards meeting goals.		Pennsylvania		
	Improve knowledge of the water-quality functions of created and restored nontidal wetlands.		Created and restored non-tidal wetlands in the Chesapeake Bay Watershed		
	Support efforts to improve the understanding of tidal water response to changes in watershed loads.		Chesapeake Bay Watershed		
	Develop a new land-cover data set for the CBP watershed model.		Chesapeake Bay Watershed and jurisdictions		1. Revisiting watershed model calibration methods with the goal of improving local watershed results.

3. Provide information to enhance the CBP watershed models. Results of these studies will be used to prepare and calibrate the Phase 6 model in 2016. (USGS, working with CBP modeling team)	Enhance the CBP watershed model using USGS measured loads for calibration as well as SPARROW model, groundwater models and other science findings.	USGS	Chesapeake Bay Watershed and jurisdictions	2016	2. Enhancing the next generation of decision support tools 3. Examining the impact the lower Susquehanna dams have on the pollutant loads to the Bay including changes over time.
	Examine the impact of Susquehanna reservoirs on changes in nutrient and sediment transport to Chesapeake Bay.		Susquehanna reservoirs and Chesapeake Bay Watershed and jurisdictions		
4. Release beta and final version of the Phase 6 Watershed Model	Incorporate data inputs, such as BMP efficiencies and land use/land cover	Modeling Workgroup, WQGIT, WQGIT Workgroups	n/a	Oct. 2015 - October 2016	Improved Technical Information; Response of Water Quality Conditions to Management Practices
	Conduct STAC peer reviews	STAC, Modeling Workgroup	n/a	Winter/Spring 2016	
	Run key scenarios and refine modeling tools as appropriate	Modeling Workgroup, Bay jurisdictions, CBPO Modeling Team	n/a	January 2016 - September 2016	
5. Develop Phase III WIP Expectations	Release Phase III WIP Stakeholder Assessment	Institute of Environmental Negotiation; WQGIT; Bay Jurisdictions	n/a	December 2015 / January 2016	Implementation of Practices; Technical Information; Response of Water Quality Conditions to Management Practices
	Develop Phase III WIP Action Plan				

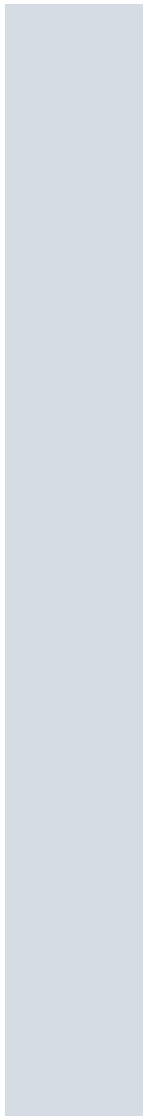
	Provide Phase III WIP Expectations	EPA; PSC; MB; WQGIT; WQGIT Workgroups; Bay Jurisdictions	n/a	Jun. 2017	Conditions to Management Practices
6. Collection of Local Land Use Data	Outreach to local Bay jurisdictions	Land Use Workgroup	n/a	2013 - 2016	Improved Technical Information
	Establish contract with Chesapeake Conservancy	Chesapeake Conservancy; PSC	n/a	Fall 2015 - Spring 2016	
	Rolling partnership review of land use data	Bay state and local jurisdictions; Land Use Workgroup	n/a	August 2015 - July 2016	
	Improving National Wetlands Inventory Data	FWS; PADEP	n/a (although priority for PA)	November 2015 - May 2016	
	Incorporation of data into Phase 6 modeling tools	Land Use Workgroup; Modeling Workgroup	n/a	May 2015 - September 2016	

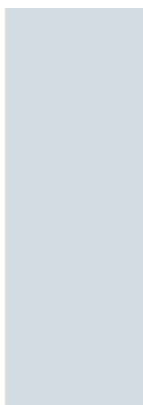
****Note:** As a member of the Chesapeake Executive Council and a signatory to the Chesapeake Bay Watershed Agreement, the Chesapeake Bay Commission (CBC) functions as the legislative arm of the Chesapeake Bay Program working within Maryland, Pennsylvania and Virginia and at the federal level to identify specific Bay management concerns requiring intergovernmental coordination

Definitions:

- EPA U.S. Environmental Protection Agency
- DE DNREC Delaware Department of Natural Resources and Environmental Control
- DOEE District of Columbia Department of Energy and Environment
- MDE Maryland Department of the Environment
- MD DNR Maryland Department of Natural Resources
- NYS DEC New York State Department of Environmental Control
- PA DEP Pennsylvania Department of Environmental Protection
- VA DEQ Virginia Department of Environmental Quality

WV DEP	West Virginia Department of Environmental Protection
USGS	U.S. Geological Survey
FWS	U.S. Fish and Wildlife Service
UMCES	University of Maryland Center for Environmental Science
JHU	Johns Hopkins University
NOAA	National Oceanic and Atmospheric Administration
USDA	U.S. Department of Agriculture
NRCS	National Resource Conservation Service
DoD	U.S. Department of Defense
USACE	U.S. Army Corps of Engineers
DOT	Department of Transportation
SRBC	Susquehanna River Basin Commission
CBP	Chesapeake Bay Program Partnership
CBPO	Chesapeake Bay Program Office
WQGIT	Water Quality Goal Implementation Team
STAC	Scientific and Technical Advisory Committee
MB	Chesapeake Bay Program's Management Board
PSC	Chesapeake Bay Program's Principles' Staff Committee
WIP	Watershed Implementation Plan
TMDL	Total Maximum Daily Load





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