

RESTORE CLEAN WATER ACTIONS: Federal Water Quality Two-Year Milestones for 2018 – 2019

The Executive Order (EO) 13508 Strategy calls upon federal agencies to join the Chesapeake Bay watershed jurisdictions in establishing two-year milestones, many of which are designed to support the jurisdictions in meeting their water quality milestones leading to the 2025 implementation goal of 100 percent practices in-place. This set of federal two-year milestones for water quality applies to calendar years 2018 and 2019. The list below presents milestones for the Environmental Protection Agency (EPA) and nine other federal agencies' agencies' (USDA, DoD, USACE, USGS, NPS, FWS, NOAA, DOT, and GSA) that support the water quality goals and outcomes in the [Chesapeake Bay Watershed Agreement](#). The milestones commitments represent activities with the potential to have significant environmental outcomes, require significant resources, or directly support the jurisdictions in meeting Watershed Implementation Plan (WIP) commitments. These commitments are contingent on receiving adequate funding in the 2018 fiscal year budget.

The federal milestones, along with the jurisdictional milestones, will contribute to the achievement of the Outcomes stated in the Watershed Agreement. Assuming a steady rate of implementation toward the 2025 goal, the following increments of progress will be achieved for the outcomes by the end of the 2018-2019 milestone period.

Numeric Milestones:

- EPA facilitates the CBP Partnership to collectively achieve 70 percent of the 2025 goal by 2019 for implementing nitrogen, phosphorus and sediment pollution reduction actions to achieve final Total Maximum Daily Load (TMDL) allocations, as measured through the phase 6.0 watershed model.*
 - EPA Status:** The 2019 progress numbers will not be available until the first quarter of CY2020. For 2018 the goal was to achieve 65% of needed reductions. The 65% goal was exceeded for phosphorus (77%) but the Partnership fell short for nitrogen (39%). Final sediment planning targets have not yet been approved by the Partnership (January 2020).
- EPA's portion of air deposition load reduction to tidal surface waters of 0.340 million pounds of nitrogen by the end of 2019 based on the phase 6.0 watershed model. (20 percent of the required load reductions from 2010 to achieve the 15.7-million-pound air deposition load allocation to tidal waters by 2025.)
 - EPA Status:** Using the new 2017 Air Model scenarios developed for the 2017 Midpoint Assessment, EPA's portion of air deposition load reduction to tidal surface waters was reduced by 0.30 million pounds of nitrogen over the 2018- 2019 period based on the Phase 6.0 Watershed Model. This is 78 percent of the required load reductions from 2010 to achieve the 15.7-million-pound air deposition load allocation to tidal waters by 2025. (2010 = 19.4 million pound load of atmospheric deposition to the tidal Bay; 2019 = 16.5 million pound load of atmospheric deposition load to the tidal Bay.)
- Apply 300,000 acres of conservation practices in conjunction with U.S. Department of Agriculture (USDA) High Priority Performance Goals.
 - USDA Status:** NRCS reporting: FY2018 saw 151,088 new acres, and FY2019 saw 136,307 new acres. That brings the total new acres toward the 4,000,000-acre goal under the Executive Order to 2,308,181 since FY2010.
- Over 800 federal facilities and properties across the Bay watershed have received 2017 and 2025 pollution reduction targets from the jurisdictions and EPA. These are posted online at

<http://www.chesapeakebay.net/groups/group/federal>.

Status: With the Phase 6 Model updates, federal agencies received revised 2025 federal planning goals from Virginia, Pennsylvania and the District of Columbia. Federal facilities have committed to reducing nutrient and sediment loads through the establishment of federal facility planning goals, submission of annual BMP progress data, and the jurisdictions' Phase III WIPs. These latter documents reflect input, including programmatic and numeric commitments, from federal agency partners across the Bay watershed.

* This outcome used 2009 as the baseline year.

Programmatic Milestones:

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Target Date	Programmatic Milestone	Status
TMDL/WIPs		
January 2018	Announce federal 2018-2019 water quality two-year milestones. (EPA, USDA, DoD, USACE, DOT, USGS, FWS, NPS NOAA, GSA)	Completed. See: https://federalleadership.chesapeakebay.net/ In addition, DoD went above and beyond expectations by developing numeric 2018-2019 two-year milestones in CAST. DoD will finalize their planned reductions versus actual reductions over this two year period once the 2019 Progress scenarios are finalized in February 2020.
January 2018	Provide final Phase III WIP expectations to the jurisdictions. (EPA)	Completed June 2018. See: https://www.EPA.gov/sites/production/files/2018-06/documents/EPA-phase-iii-wip-expectations-6-19-18.pdf
May 2018	Evaluate jurisdictional and federal 2018-2019 two-year milestones in instances where the jurisdictions choose to submit them. (EPA)	Completed July 2018. See: https://www.EPA.gov/chesapeake-bFrebeccaay-tmdl/EPA-final-evaluation-2016-2017-milestone-and-midpoint-progress-and-2018-2019
May 2018	Assess progress made to implement the 2016-2017 two-year milestones against the “60% nutrient and sediment reductions by 2017” Chesapeake Bay TMDL goal and initiate appropriate federal actions to ensure jurisdictions remain on pace to achieve 100%	Completed July 2018. See: https://www.EPA.gov/chesapeake-bay-tmdl/EPA-final-evaluation-2016-2017-milestone-and-midpoint-progress-and-2018-2019
May 2018	Release final Phase III WIP Planning Targets to the jurisdictions. (EPA)	Completed. However, the Partnership (not EPA) released the targets at July 2018 PSC meeting.
2018/2019	Federal agencies to report BMP implementation progress to the Bay jurisdictions annually with copy to EPA. (Multiple Federal Agencies/EPA)	In 2018, approximately 50% of the agency progress submissions to the jurisdictions were completed. A summary is not available for 2019. Note for VA MS4 DoD Installations: DoD CBP will no longer be reporting BMPs for installations located in VA due to their requirement to do so directly into the VA Warehouse. The DoD CBP will still continue to report annual progress for other watershed jurisdictions where DoD installations are located and non-regulated MS4 installations located in VA.

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TMDL/WIPs		
2018/2019	Provide federal agencies with Phase III WIP expectations and coordinate with the state on the development of local area planning goals and/or federal facility nutrient and sediment reduction targets. (EPA)	Completed August 2018. See: https://www.EPA.gov/sites/production/files/2018-09/documents/EPA-phase-3-wip-expectations-federal-8-16-18.pdf
2018	Revise the protocol for setting federal facility targets in coordination with the development of local area planning goals and provide guidance on how the revised targets impact planning and implementation of BMPs on federal lands. (Multiple Federal Agencies/EPA)	Partially complete – Federal Planning Goals were established in VA, PA, and DC. The FFWG tried to attempt the revision to this document, but without EPA taking the lead on the revisions it was not complete.
2018/2019	Support jurisdictions' WIPs by providing necessary information for inclusion in Phase III that reflect commitments to implement BMPs that achieve federal facility nutrient and sediment reduction targets and/or local area planning goals. (Multiple Federal Agencies/EPA)	Partially complete - approximately 60% of federal agency submissions provided to the jurisdictions. <ul style="list-style-type: none"> DoD submitted both narrative and numeric data inputs that supported Jurisdictional WIP development in PA, VA, MD, DC, and WV. This included developing a template for other federal agencies to use in the development of their Phase III WIP input. DoD submitted CAST scenarios for BMP implementation through 2025 to PA, MD, DC, and VA. NPS acquired contractor assistance to collect and submit narrative summaries and CAST scenarios for Phase III WIPs to PA, MD, DC and VA.
2018/2019	Develop an approach using the Phase 6 model and other information, if needed, to assess federal agency progress. (EPA)	In progress. During 2018-2019 DoD initiated and developed the method and identified key issues that have prompted additional improvements to the Phase 6 Model for 2019 CAST. DoD led this effort in advance of EPA due to the significant amount of BMP data collected by installations and to enhance an understanding of the changes in loads that have occurred over time to evaluate their our own progress at the Mid-point.
2019	Continue to provide funding to support a consortium of land grant universities to run	Ongoing (current cooperative agreement in place through December 2020)

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TMDL/WIPs		
	BMP expert panels and to provide other technical expertise to the partnership. (EPA).	
2018/2019	Provide trainings on BayFAST and CAST to federal, state and local partners in the Bay watershed. (EPA)	Ongoing. BayFAST has been incorporated into CAST.
2018	Reconvene and staff the Partnership's BMP Verification Committee as the forum to support ongoing efforts to enhance the jurisdictions' BMP verification programs, address issues facing multiple jurisdictions and identify and address common resource needs. (EPA)	Did not complete. Decision to reconvene committee will be made by Chesapeake Bay Program partnership in late 2019 or 2020.
April 2019	Evaluate jurisdictions draft Phase III WIPs. (EPA)	Completed June 2019. See: https://www.EPA.gov/chesapeake-bay-tmdl/EPA-evaluates-draft-phase-iii-watershed-implementation-plans
2019	Begin the process to update the CBP high resolution land cover data. (USGS, EPA)	Completed. New updates will be done through grant with Chesapeake Conservancy.
2018/2019	Communicate findings on explaining trends in the watershed and tidal waters to support the Mid-Point Assessment. Work through the STAR Integrated Trends and Analysis Team (ITAT) to provide key results WQ GIT and interact with jurisdictions, who will use the results to inform development of WIPs. See science support section for more details. (USGS, academic partners, working with EPA)	Completed for the Phase III WIPs and ongoing to support WIP and two-year milestone implementation. Science information developed so jurisdictions could develop their Phase 3 WIPs. https://www.usgs.gov/centers/cba/science/usgs-science-informs-revised-water-quality-restoration-plans-chesapeake-bay-and?qt-s=&qt-science_center_objects=0#qt-science_center_objects
2018/2019	Develop BMP Crediting Report in VA, MD, DC, and PA in coordination with EPA. (DoD, EPA)	Complete. DoD funded the development of BMP crediting reports that demonstrated the number of BMPs credited in the model and credited to DoD. The crediting reports have proven valuable in demonstrating the Partnership's Progress Scenario does not properly reflect the nutrient and sediment reductions DoD has made, ensuring BMPs are inspected and maintained and reductions are not lost, and validating the need to continue to coordinate with the watershed

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TMDL/WIPs		
		jurisdictions regarding overall CB TMDL implementation.
2018/2019	Participate in and co-chair the Federal Facilities Workgroup to enhance collaborative efforts within the Chesapeake Bay Program Partnership. (DoD)	Completed.
2018/2019	Conduct DoD CB TMDL Progress Evaluation in VA, MD, DC, and PA in coordination with EPA. (DoD, EPA)	Completed. DoD funded two consecutive years of progress evaluations and extended the second year to develop an implementation plan.
2018/2019	Submit 18/19 planned BMP implementation in CAST for VA, MD, DC, and PA. (DoD)	Completed.
2018/2019	Develop draft 2025 Implementation Plans to support jurisdictions' Phase III WIPs in VA, MD, DC, and PA. (DoD)	Completed. DoD developed 2018 and 2025 CAST scenarios with data provided by installations. DoD identified the remaining gap to meet DoD 2025 goals and developed a hypothetical fill gap approach which included both runoff reduction BMPs, street sweeping, and natural resources projects with water quality co-benefits.
2018/2019	Participate in jurisdictions' WIP processes by disseminating jurisdiction information throughout DoD to support effective implementation of future Phase III WIP expectations. (DoD)	Completed. DoD disseminated jurisdiction information through its Chesapeake Bay Action Team and used installation datacalls to provide data spreadsheet templates to gather and report WIP III information to the jurisdictions.
2018/2019	Implement nutrient and sediment reduction practices totaling \$45M. (DoD)	Completed. The DoD implemented BMPs totaling a \$53.2M investment in 2018-2019 exceeding the goal by almost 20%.
2018/2019	Complete an assessment of the results of the first year of the new fertilization policy, determine if any soil nutrient testing is necessary, confirm the preferable alternatives if any are required in exceptional cases and quantify the action for reporting. Also work on developing a regional stormwater management policy and an annual regional tree planting goal. (GSA)	<ul style="list-style-type: none"> • It was determined that fertilizers are not applied by the region's landscape contractors per their contract language. Only natural compost is used in appropriate areas as identified as needed. • It was determined by my management that the political climate would not be conducive to the adoption of the policies listed, so these efforts are on hold until the climate changes. • Tree planting numbers are now being tracked and compared annually. But for the reason stated directly above, an annual goal along

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TMDL/WIPs		
		with the additional annual funding request that would need to go with it is on hold.
2018/2019	Four Stormwater management studies will reach conclusion within six months and scopes of work will be developed and the funding will be sought to carry out the design and construction recommended by the studies. Design and construction work will be overseen in FY19 for any of the projects successfully funded. (GSA)	<ul style="list-style-type: none"> All four studies were completed (three late due to contractor delivery delays). Project funding requests were submitted into the Strategic Asset Inventory Planning (SAIP) in FY19 for prioritization and approval. Two projects are moving forward in FY20, one is on hold pending additional input from MDE and numerous other ones remain under consideration for funding through the SAIP process.
2018/2019	By the end of FY18, all BMPs will have been visited, the maintenance status will be assessed and maintenance or repair needs will be noted. Strategies for pursuing the bulk maintenance or repair of targeted BMP groups will be initiated with ponds and cistern systems being the most likely top candidates and the corrective work will be overseen in FY19. (GSA)	<ul style="list-style-type: none"> All of the region's BMPs have been visited. The maintenance and repair needs are still be defined in a number of locations with more involved issues. Maintenance is being handled on a facility by facility basis for now until more information about the maintenance needs is confirmed and it can be determined if regional contracts would be compatible with the facility budgeting process.
2018/2019	The DC reconciliation work will be finished with all historical corrections necessary ready to report in the FY18 reporting cycle and the same methodology will be pursued to complete a similar exercise with MD and VA in FY18. (GSA)	<ul style="list-style-type: none"> The DC reconciliation was completed. The same reconciliation work in MD and VA has not been completed while time has been dedicated to keeping up with the Maryland MS4 permit's requirements and everything else named here and beyond.
2018-2019	Continue to develop the <i>Chesapeake Bay Comprehensive Water Resource and Restoration Plan</i> that guide the implementation of projects by agencies to assist in meeting the 2014 Chesapeake Bay Agreement. (USACE)	Ongoing.
2018/2019	Continue efforts to foster healthy lands and waters, by balancing public recreational uses and needs at USACE reservoirs and dams. (USACE)	Ongoing.

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Agriculture		
2018/2019	Provide assistance to Maryland to develop and re-issue CAFO General Permit. (EPA)	Completed. EPA completed its review process on this this general permit on August 27, 2019. This general permit, once reissued by MDE, will be available to over 570 CAFOs. The draft permit was public noticed on September 4, 2019. The public comment period has been extended, upon request, for an additional 60 days and will now conclude on December 27, 2019.
2018/2019	Provide assistance to Pennsylvania to develop and re-issue PAG-12. (EPA)	Completed. EPA reviewed Pennsylvania's NPDES General Permit for CAFOs (PAG-12) on January 19, 2018. PADEP re-issued this permit on April 1, 2018 and it is set to expire on March 31, 2023. The revisions to PAG12 comply with the 2015 NPDES Electronic Reporting Rule, which substitutes electronic reporting for paper-based reports. PAG-12 represents more than 50% of NPDES CAFO-permitted facilities in Pennsylvania.
2018/2019	Provide assistance to Delaware to develop and issue remaining CAFO General Permits. (EPA)	Completed. On September 28, 2019, EPA reviewed the Delaware Department of Natural Resources and Environmental Quality (DNREC) National Pollutant Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) general permit for poultry operations with land application of manure (GP2). On April 30, 2019, DNREC issued GP2 for large, medium, and designated poultry CAFO with land application of manure. This permit will provide permit coverage for 89 facilities.
2018/2019	INNOVATION GRANTS: NRCS & EPA coordinate respective innovation grant programs in FY2018 and FY2019 to ensure best use of federal funding to support state Watershed Implementation Plans commitments to reduce agricultural nutrient and sediment loadings and to address key challenges facing the agricultural community. Grant programs are EPA's Innovative Nutrient and Sediment Reduction Program administered by NFWF and NRCS's Conservation Innovation Grant Program. (EPA and NRCS)	Completed.

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Agriculture		
2018/2019	SRF: EPA will facilitate meetings, as requested, with State agencies (CWSRF, environmental, agricultural, etc.) to explore how the Clean Water State Revolving Fund can be used to reduce nutrient and sediment loads from agriculture and rural communities. (EPA)	Completed. Held SRF All-States meetings in April 2018 and May 2019. Facilitated meetings at Shenandoah Valley Regional Agricultural Networking Forum, Pennsylvania Ag Progress Days and with Shenandoah Funders Team, Lancaster County Clean Water Partners, Alliance for the Chesapeake Bay, and PENNVEST.
2018/2019	AG CERTAINTY: Support the development and implementation of agricultural certainty programs in the Bay watershed states. (EPA, USDA)	Completed. EPA continues to support implementation of VA's Resource Management Plan Program through the Chesapeake Bay grants. NRCS: This is supported at the national level. However, the applicable regulations are state regulations, so we don't have the authorities at the national level beyond support.
2018/2019	NRCS will continue to support voluntary actions by farmers and landowners to improve water quality and other resources by providing technical assistance through its Conservation Technical Assistance (CTA) program; and technical and financial and 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). (USDA-NRCS)	Ongoing.
2018/2019	USDA will continue to provide financial and technical support for voluntary temporary retirement of cropland and marginal pasture and establishment of conservation cover for water quality and wildlife habitat improvement, through the Conservation Reserve Program (CRP) and Conservation Reserve Enhancement Program (CREP). (USDA-FSA, USDA-NRCS)	Ongoing. Note the clarification of USDA-FSA as a responsible agency.

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Agriculture		
2018/2019	Incorporate changes in Farm Bill Conservation Programs resulting from the new 2018 Farm Bill into ongoing efforts to improve water quality in the Chesapeake Bay. Work with partners to inform Chesapeake Bay Program partners and the general public about farm bill conservation program opportunities. (USDA-NRCS)	Ongoing.
2018/2019	Work with partners to develop and implement strong projects to improve water quality, working with agricultural producers through the Regional Conservation Partnership Program (RCP). (USDA-NRCS)	Ongoing.
2018	Evaluate priority watersheds for NRCS assistance. To the extent possible, incorporate Chesapeake Bay Program priority watersheds and BMPs. Integrate findings from the CEAP Chesapeake cropland studies about the effectiveness of nutrient management on Chesapeake cropland and opportunities to fine-tune nutrient management to achieve the greatest water quality benefits. (USDA-NRCS)	Completed.
2018/2019	Provide opportunities for non-USDA conservation professionals to participate in NRCS technical training activities such as for conservation planning and practice design and implementation. (USDA-NRCS)	Ongoing.
2018/2019	Promote adoption of practices and systems by agricultural producers that improve soil health. (USDA-NRCS)	Ongoing.
2018/2019	USDA will work with State agencies and EPA to support accurate BMP reporting within the Chesapeake Bay watershed including, where appropriate, developing options for entering into and/or strengthening data sharing with the Bay watershed states. (USDA)	Ongoing. EPA continues to fund USGS to implement the USGS-USDA 1619 data sharing agreement to provide aggregated USDA conservation data to the states. EPA, USDA and USGS are working together, in cooperation with the States, to improve data management methods to address state reporting issues, while complying with the data privacy provisions in the Farm Bill.

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Target Date	Programmatic Milestone	Status
Agriculture		
2018/2019	USDA will continue to work with partners to develop and implement strategies to ensure that federal, State, and NGO conservation programs create mutually reinforcing incentives for producers to install and maintain riparian forest buffers. (USDA)	Ongoing.
2018/2019	USDA will work with the 6 bay watershed states on implementing the Riparian Forest Buffer Task Force recommendations. (USDA)	Ongoing.

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Atmospheric – Rules, Deposition, Allocations		
2018/2019	Significantly reduce nitrogen deposition to the Bay and watershed by 2020 through implementation of national rules under the Clean Air Act. (EPA)	
2018/2019	<ul style="list-style-type: none"> Apply and track new Community multiscale Air Quality Model (CMAQ) air deposition modeling for the CB watershed incorporating the most recent finalized rules with significant NO_x reductions in the Phase 3 Watershed Implementation Plans (WIPs) (EPA) 	<ul style="list-style-type: none"> Completed.
2018	<ul style="list-style-type: none"> Continue implementation of Tier 3 vehicle emission standards. (EPA) Finalize nitrogen dioxide (NO₂) primary national ambient air quality standards (NAAQS). (EPA) Develop federal plan to address interstate transport for the 2015 ozone National Ambient Air Quality Standards (NAAQS). (EPA) 	<ul style="list-style-type: none"> Implementation of Tier 3 vehicle emission standards is ongoing. On April 18, 2018, EPA retained the current NO₂ NAAQS. There are two primary NAAQS for NO₂: a 1-hour standard at a level of 100 parts per billion (ppb) based on the 98th percentile of the annual distribution of daily maximum 1-hour NO₂ concentrations, averaged over 3 years, and an annual standard at a level of 53 ppb based on annual average NO₂ concentrations. 83 FR 17226. EPA decided to not develop a federal plan to address interstate transport for the 2015 ozone NAAQS. States are submitting individual state implementation plans (SIPs) to address transport for the 2015 ozone NAAQS.
2018	Work with states to develop State Implementation Plan (SIP) revisions to reduce NO _x emissions. (EPA)	Ongoing.
2018/2019	<ul style="list-style-type: none"> Work with states and review SIPs that address infrastructure requirements for the 2015 ozone NAAQS. (EPA) Work with states to develop rules to implement the 2015 ozone NAAQS. (EPA) 	Ongoing.
2018/2019	Review state permits which may include rules that limit emissions of NO _x . (EPA)	Ongoing.

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Target Date	Programmatic Milestone	Status
Stormwater		
2018/2019	Finalize District of Columbia MS4 permit. (EPA)	Completed. Permit issued May 23, 2018. Effective Date 6/22/2018.
2018/2019	Meet with Federal Agencies and the District of Columbia Department of Energy and Environment (DC 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. (NPS, DoD-Navy, NPS, GSA, EPA)	DoD Input: I am unaware of any meetings held during this timeframe.
2018/2019	Conduct update of 2012 stormwater assessments for Delaware, Maryland and West Virginia. (EPA)	Updates completed.
2018/2019	Conduct oversight review and comment, per NPDES Memorandum of Agreement, on draft state Municipal, Construction, and Industrial Stormwater 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. (EPA)	Completed. Reviewed Maryland and Virginia's Phase II MS4 General Permits and Delaware's Tier 1 and Tier 2 MS4 General Permits; Pennsylvania, Delaware, Virginia, West Virginia Construction General Permits; Pennsylvania Turnpike Commission Phase II MS4 Individual Permit; Maryland Industrial General Permit Modification; Delaware's Industrial General Permit 6 Maryland Phase I MS4 Modifications; Developed Permit Quality Review reports for Virginia, Maryland, Delaware
2018/2019	Review MS4 TMDL Plans for compliance with permit requirements (EPA)	Completed. EPA Review of MS4 TMDL Plan implementation performed in Fairfax, Henrico, and Prince William Counties. Final review results are pending.
2018	Conduct MS4 permittee and state inspector trainings in coordination with jurisdictions. (EPA)	Conducted DOT MS4 Forum in MD May 2018. Conducted DC MS4 permittee training Oct 2019
2018/2019	The stormwater program manager will continue to maintain involvement in all active projects triggering stormwater requirements to make sure what is designed meets federal, state, and local requirements. Then the stormwater program manager will make sure what is constructed meets the specified design parameters and will make sure all stormwater	This work has been tough to keep up with in light of all of the needs in the maintenance arena. But so far this work has been successful.

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Stormwater		
	infrastructure is properly commissioned and maintained. (GSA)	
2018/2019	All of the existing stormwater management infrastructure in place at every applicable facility in NCR's inventory will be linked to the maintenance requirements in the NCMMS system. The requirements will be made live in the system after all applicable building managers are alerted and all applicable O&M contracts are updated to cover the new scopes of work. Reports will be generated through the system periodically to identify locations where maintenance tasks are not being completed in the prescribed timeframes so that follow up can identify and fix the process breakdown. (GSA)	<ul style="list-style-type: none"> • All requirements have been programmed into the NCMMS system. • Maintenance requirements that fall under the purview of the region's landscape maintenance contractors have been activated and are almost universally followed with a few exceptions being addressed. • Remaining requirements are being activated for the region's O&M contractors as new contract awards are made. And the process and timeline for these awards has been much slower than originally projected but this is beyond the control of the stormwater program.

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Wastewater		
2018	Finalize Blue Plains NPDES permit. (EPA)	Permit reissued. Effective August 26, 2018.
Trading/Offsets		
2018/2019	Issue Compendium that summarizes all final technical memoranda. (EPA)	Will not be completed.
2018/2019	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)	EPA Region 3 finalized a discussion paper titled “Considerations for Interstate Trading and Offsets in the Chesapeake Bay Watershed” on 8/21/2017. Draft MS4 and Construction Mitigation memorandum is on hold pending 2020 EPA review of jurisdictions programs.
2018/2019	Update previously-issued technical memoranda, as needed. (EPA)	Ongoing.
June 2019	As part of the 2-year milestone evaluation, determine which part of the jurisdictions load reduction is attributed to addressing growth and which part is attributed to load reductions made towards maintaining the TMDL allocation. (EPA)	Ongoing.
2018/2019	Review Bay jurisdictions’ trading and offset regulations and policies and support Bay jurisdictions as they develop trading and/or offset programs. (EPA)	Ongoing.
2018/2019	Work with other Federal agencies to build capacity that will support an efficient and robust trading market. (USDA, EPA, DOT)	Ongoing.

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Toxic Contaminants		
2018	Conduct monitoring in D.C. and Maryland to support revision of toxics TMDLs in the Anacostia River, in accordance with monitoring	Completed sampling on June 11, 2019.
2018/2019	Take appropriate action on proposed PCB TMDLs submitted in the Bay watershed for local waters. (EPA)	Completed. Piscataway Creek & Mattawoman Creek Tidal Fresh Chesapeake Segment PCB (MD) approved on 2/19/19
2018/2019	Take appropriate action on proposed state water quality criteria updates developed to be consistent with the 2015 EPA Updated Ambient Water Quality Criteria for the Protection of Human Health. (EPA)	Virginia adopted amendments to the 94 human health parameters on June 24, 2019 and EPA approved these amendments on October 18, 2019.
2018	Finalize Management Standards for Hazardous Waste Pharmaceuticals Rule. (EPA)	Completed. See: https://www.epa.gov/hwgenerators/final-rule-management-standards-hazardous-waste-pharmaceuticals-and-amendment-p075
June 2018	Complete the analysis of PCB removal from effluent that results from WWTP upgrade to enhanced nutrient removal. Disseminate the final report to jurisdiction PCB TMDL leads and make the report available to other watershed restoration programs. (EPA)	Completed.
December 2018	Complete the analysis of the feasibility of a voluntary removal program for PCB-containing equipment and materials. Submit report to the Toxic Contaminants Workgroup for consideration of undertaking such a program. (EPA)	Completed.
September 2018	Revise management strategy and work plans for toxic contaminants reduction and research management strategies. (EPA, FWS, USGS working with Toxic Contaminant Work Group)	Completed. Toxics contaminant research: https://www.chesapeakeprogress.com/clean-water/toxic-contaminants-research Toxic policy and prevention: https://www.chesapeakeprogress.com/clean-water/toxic-contaminants-policy-and-prevention Next management strategy would be developed in Fall, 2020.

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Toxic Contaminants		
2018/2019	Update a GIS desktop tool to identify potential land sources of contamination in the watershed. The use of EJ SCREEN will be evaluated to identify the location of such sites in areas with diverse populations. (EPA)	Ongoing. EJScreen has been incorporated into the GIS desktop tool in addition to mapping of industries that may use or have used PCBs based on SIC codes.
2018/2019	Review NPDES permits to ensure consistency with the requirements and assumptions with the PCB TMDLs. (EPA)	Ongoing. As part of its oversight responsibilities for the NPDES program, EPA reviews draft permit packages within the Chesapeake Bay Watershed for consistency with the requirements and assumptions of any relevant PCB TMDLs.
2018/2019	Conduct inspection(s) and take appropriate enforcement follow-up to ensure compliance with the Toxic Substances Control Act regulations related to PCBs. (EPA)	Conducted one inspection and issued a notice of non-compliance in 2018. Conducted one inspection in 2019.
2019	Develop a Chesapeake Bay Fish Consumption Advisory Infographic and provide to jurisdictions, local governments and other stakeholders for use in their outreach efforts. (EPA)	Completed.
2019	Prepare synthesis reports on the factors contributing to degraded health of bass within the Chesapeake watershed. The findings will be used to inform toxic contaminant research outcome (USGS).	On-going, reports to be completed in 2020.
2019	Finalize synthesis of historic data related to intersex and effects of estrogenic endocrine disruption (USGS, 2018), Prepare summaries of findings of relation between intersex conditions and endocrine disruption. (USGS)	On-going, reports to be completed in 2020.
2019	Synthesize data designed to characterize the occurrence, concentrations and sources of contaminants in selected agricultural areas of the Susquehanna Watershed (USG, 2018). Interpret data and release findings. (USGS)	On-going, reports to be completed in 2020.
2018/2019	Synthesize results designed to assess the relative risk of contaminants, and options for mitigation, for EDC and fish. Use findings to inform associated policy and prevention strategies. (USGS)	On-going, reports to be completed in 2020.

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Target Date	Programmatic Milestone	Status
Oversight and Enforcement		
December 2018 and 2019	<p>Permit and Enforcement Oversight – Stormwater, Wastewater, Agriculture, Trading/Offsets, Air.</p> <ul style="list-style-type: none"> • NPDES Permit Reviews – Track progress annually on number of permits reviewed and objections. (EPA) • Inspections and Case conclusions – Track progress annually on inspections (including oversight inspections) conducted and cases concluded. (EPA) <p>Ins = inspection, AA= Administrative Actions CA/FO + consent agreement/Final Order (Class I penalty); II = Industrial Inspections; CI=construction inspections; ESO=expedited settlement offer; APO = Administrative Penalty Order</p>	<p>Region 3 reviewed 100 Chesapeake Bay significant NPDES permits (received 56 draft permit packages for review in 2018, including the issuance of the DC Blue Plains permit, and 44 draft permit packages in 2019) No permit objections were issued during this timeframe.</p> <p>Region 2 reviewed and commented on 1 permit 2018 and reviewed 1 permit in 2019. No permit objections were issued during this timeframe.</p> <p>EPA finalized 13 NPDES administrative orders (10 in 2018 covering 16 operations and 3 in 2019 covering 8 operations) in the Chesapeake Bay watershed. EPA conducted 42 NPDES inspections (23 in 2018 and 19 in 2019) in the Chesapeake Bay watershed.</p> <p>EPA finalized 11 administrative orders (5 in 2018 and 6 in 2019) and 6 judicial orders (in 2019) resulting in nitrogen oxide reductions to the Chesapeake Bay airshed.</p>

RESTORE CLEAN WATER		
Target Date	Programmatic Milestone	Status
Monitoring and Science Support		
2018/2019	Provide assistance to DC, DE, MD, and VA to promulgate the appropriate sections of the <i>Ambient Water Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and its Tidal Tributaries- 2017 Addendum</i> into their respective jurisdictions' Water Quality Standards regulations. (EPA)	Assisted Virginia with James River Chlorophyll-a criteria and assessment protocol development and subsequent reviews with comments. Overall assistance is ongoing (EPA and USGS).
2018/2019	Continue to support the Chesapeake Monitoring Cooperative's ongoing integrated non-traditional monitoring partners into the Chesapeake Bay Program Partnership's Watershed and Tidal Monitoring Networks, thereby expanding data of documented quality available to support Chesapeake Bay and watershed restoration decision making. (EPA, USGS)	Ongoing. Through coordination with the Chesapeake Monitoring Cooperative and their creation of the Chesapeake Data Explorer, approximately 100,000 volunteer and non-traditional (i.e., non-EPA grant supported) monitoring sourced data points are now available as supplemental information to support decision-making needs. https://www.chesapeakemonitoringcoop.org/services/chesapeake-data-explorer/
2018/2019	Collaborate with the all six states and DC to monitor nutrient and suspended-sediment conditions across the full range of hydrologic conditions at each of the 115 stations in the CBP nontidal network. Work through STAR Integrated Monitoring Networks work group to coordinate activities. (USGS working with States and EPA)	Ongoing: Monitoring network is continuing. With a specific focus on the nontidal monitoring community, the Nontidal Network Workgroup has been re-activated with quarterly meetings.
2018/2019	Provide updates of nutrient and sediment load trends in the Bay watershed to help assess progress toward implementing the Bay TMDL. Updates of loads at the River-Input Monitoring stations will be provided annually with results from additional stations in the non-tidal network provided every two years. (USGS working with states and EPA)	Completed for River input stations. Ongoing for stations in watershed. Links for trend updates: https://cbrim.er.usgs.gov/
2018/2019	Complete the first 2-year cycle of the Biennial Strategy Review System, an adaptive management process designed to improve our effectiveness in achieving the Chesapeake Agreement Goals and Outcomes. ChesapeakeDecisions, second in the suite of	Completed first 2-year cycle, reviewed and improved process, developed ChesapeakeDecisions to use in the second cycle and began second cycle. See ChesapeakeDecisions .

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Target Date	Programmatic Milestone	Status
Monitoring and Science Support		
	ChesapeakeStat tools, will support this process. (EPA working with the Partnership)	
2018/2019	Update the TMDL Tracker in Spring of 2018 using the Phase 5.3.2 Watershed Model results and make available through ChesapeakeProgress. CAST will be used to track progress using the Phase 6.0 Watershed Model. (EPA)	Not applicable. TMDL Tracker information has been incorporated into CAST and ChesapeakeProgress.
2018/2019	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. (EPA/USGS)	Completed December 2017. See: 2017 Criteria Addendum
2018	Complete efforts to explain watershed trends of nutrients and sediment to support the Mid-Point Assessment and development of Phase 3 WIPs. The effects of nutrient sources, land-use change, and BMPs will be investigated and presented for the River-Input sites, sites across the watershed, and sediment. (USGS, EPA, and academic partners working through the STAR ITAT group)	Analyses planned for 2018 is complete but analyses ongoing to determine cause of trends. Reports being finalized for release in 2020.
2018	Publish new approaches for quantifying and explaining water- quality trends in tidal waters. (USGS, EPA, and academic partners working through the STAR team)	Completed. Publication of new approach is completed: Murphy, R.R., Perry E., Harcum J., Keisman J. A Generalized Additive Model approach to evaluating water quality: Chesapeake Bay case study. Environmental Modelling & Software 118 (2019): 1-13. https://doi.org/10.1016/j.envsoft.2019.03.027 Annual-to-biennial tidal trend maps available at https://www.chesapeakebay.net/who/projects-archive/integrated_trends_analysis_team

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Target Date	Programmatic Milestone	Status
Monitoring and Science Support		
2018/2019	Complete presentations and articles explaining estuary water quality trends. Topics include SAV, water clarity, water quality, and water-quality attainment. Coordinate efforts by research teams to present findings to WQ GIT and jurisdictions. (STAR academic partners, USGS, EPA)	<p>Completed analyses.</p> <p>Completed publications include: Hernandez, A., P. Tango, R. Batiuk. 2019. Development of the Multi-metric Water quality indicator to assess Chesapeake Bay water quality standards. Environmental Management and Assessment. (Accepted August 2019).</p> <p>Zhang, Q., P. Tango, R.R. Murphy and others. 2018. Attainment Deficit: Three decades of Temporal and Spatial Patterns in Chesapeake Bay Dissolved Oxygen Criterion Nonattainment. <i>Frontiers in Marine Science</i>. 5:422. Published 21 November 2018. Doi: 10.3389/fmars.2018.00422.</p> <p>Zhang, Q., R.R. Murphy, R. Tian, M. K. Forsyth, E. M. Trentacoste, J. Keisman, and P.J. Tango. 2018. Chesapeake Bay’s water quality condition has been recovering: Insights from a multimetric indicator assessment of thirty years of tidal monitoring data. <i>Science of the Total Environment</i>. 637-638 (2018) 1617-1625.</p> <p>Keisman, J., C. Friedrichs, R. Batiuk, J. Blomquist, J. Cornwell, C. Gallegos, S. Lyubchich, K. Moore, R. Murphy, R. Orth, L. Sanford, P. Tango, J. Testa, M. Trice, and Q. Zhang. 2019. Understanding and Explaining 30 Years of Water Clarity Trends in the Chesapeake Bay’s Tidal Waters. STAC Publication Number 19-004, Edgewater, MD. (25 pages)</p> <p>Zhang, Q. and P. Tango. 2019. Estuarine habitat quality (Chesapeake Bay) <i>in</i> NOAA Mid-Atlantic State of the Ecosystem Report. March 20, 2019. Page 20.</p>
2018	Integrate findings between the watershed and tidal system by conducting a STAC workshop on “Integrating Recent Findings to Explain Water Quality Change: Support for the Mid-Point Assessment and Beyond” and subsequent	<p>Completed. STAC reports produced.</p> <p>Keisman, J., J. Blomquist, J.K. Bohlke, J. Davis-Martin, W. Dennison, C. Friedrichs, R. Murphy, S. Phillips, J. Testa, E. Trentacoste, and D. Weller.</p>

RESTORE CLEAN WATER		
Target Date	Programmatic Milestone	Status
Monitoring and Science Support		
	recommendations. (USGS EPA, and academic partners).	(2018). <i>Integrating Recent Findings to Explain Water-Quality Change: Support for the Mid-Point Assessment and Beyond</i> Link to STAC information: http://www.chesapeake.org/stac/stac_ws_details.php?activity_id=286
2018/2019	Using information gathered in 2016-2017 on patterns in water quality standards and criteria attainment and the explain trends (see above) on the effects of nutrient sources, land-use change, and BMPs in the watershed and for the major source sectors (agricultural, urban, and atmospheric deposition), develop an on-line data visualization tool to aid jurisdictions in understanding trend results for both the watershed and tidal waters at the segment level. (EPA and USGS)	Completed. Development of Watershed Data Dashboard
2018/2019	Enhance the Chesapeake Bay Partnership water quality models to support decision making for the MPA and Phase III of the WIPs. The monitoring information and land use data is being used to enhance the CBP Watershed model and estuary water quality model. (STAR Modeling Workgroup with support from USGS, EPA and USACE)	Completed. Monitoring and land used in new Phase 6 watershed model.
2018/2019	EPA will work with NOAA to utilize information from the Chesapeake Bay Interpretive Buoy System (CBIBS) data to enhance tidal results. (EPA/NOAA)	CBIBS data is not being used in tidal water quality analyses. However, NOAA is co-leading with a USGS co-lead a CBPO GIT-funded proposal to pilot an alternative data collection approach, a pilot test of a vertical profile assessment of water quality, at locations such as the CBIBS offshore locations. Work started in 2019, it will continue into 2020.

RESTORE CLEAN WATER		
Target Date	Programmatic Milestone	Status
EPA Grant Support to States and the District of Columbia		
2018/2019	Provide financial support to Bay jurisdictions, as authorized, through EPA's assistance programs including CWA Section 319, SRF, CWA 117 CBIG and CBRAP. (EPA)	CWA 319 and SRF: Completed. CWA 117: Over \$30 million was awarded to the seven jurisdictions under the Chesapeake Bay Implementation Grants and the Chesapeake Bay Regulatory and Accountability Program grants. Over \$5 million was awarded under the CBP's monitoring initiative.
2018/2019	Provide financial support to localities and other entities through the Innovative Nutrient and Sediment Reduction Grants and the Small Watershed Grants, as authorized. (EPA)	EPA awarded a combined total of \$12 million to these grant programs.

Acronym Guide

BayFAST/CAST/MAST/VAST – Federal Assessment Scenario Tool/Chesapeake AST/Maryland AST/Virginia AST
BMP – Best Management Practice
CAFO – Concentrated Animal Feeding Operation
CBP – Chesapeake Bay Program
CBIBS – Chesapeake Bay Interpretive Buoy System
CBIG – Chesapeake Bay Implementation Grants
CBRAP – Chesapeake Bay Regulatory and Accountability Program grants
CEAP – Conservation Effects Assessment Project
DoD – Department of Defense
DOT – Department of Transportation
EJ SCREEN – Environmental Justice Screening and Mapping Tool
EO Strategy – Executive Order 13508 Strategy for Protecting and Restoring the Chesapeake Bay Watershed
EPA – Environmental Protection Agency
FWS – Fish and Wildlife Service
GIS – Geographic Information System GSA General Services Administration
Maryland DNR – Maryland Department of Natural Resources
MS4 – Municipal Separate Storm Sewer System
NAAQS – National Ambient Air Quality Standards
NOAA – National Oceanic and Atmospheric Administration
NPDES – National Pollutant Discharge Elimination System
NRCS – Natural Resources Conservation Service
NPS – National Park Service
PCB – polychlorinated biphenyl
SAV – Submerged Aquatic Vegetation
STAC – Scientific and Technical Advisory Committee
STAR – Scientific and Technical Assessment Research team
TMDL – Total Maximum Daily Load
UMCES – University of Maryland Center for Environmental Science
USACE – U.S. Army Corps of Engineers
USDA – U.S. Department of Agriculture
USGS – U.S. Geological Survey
Virginia DEQ – Virginia Department of Environmental Quality
WIP – Watershed Implementation Plan