<u>January 1, 2018 – December 31, 2019 Jurisdiction Programmatic Two-Year Milestones</u>

Agriculture				
Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
Ongoing	Implement Agricultural Compliance and Enforcement Strategy.	Inspection & Compliance Effort. DEP, in coordination with County Conservation Districts (CDs), will use a targeted approach (using DEP regional office Waterways and Wetlands staff).  50 inspections will be performed per CD Bay Technician; 100 inspections will be performed per DEP Regional Office Water Quality Specialist per year.  Inspection compliance results will be reported in annual milestone updates	DEP and County Conservation Districts (CDs)	2019 Status Update: Inspection baseline of 10% of agricultural acres has been met. FY2018-2019 Expanded Ag Inspection Program Summary is attached.
April 2018	Reissue PAG-12 General Permit for CAFOs	Reissue the PAG-12 General Permit for CAFOs and notify affected permittees of the changes.	DEP	2019 Status Update: No change (completed in 2018).  2018: The PAG-12 General Permit was reissued on April 1, 2018. DEP transmitted notice to approximately 275 permittees of the changes in the reissued permit on April 4, 2018.

December 2019	Begin work on plan implementation inspection phase (Phase 2) of the Agricultural Compliance Inspection Program	the processes for inspection of	DEP, Conservation Districts	2019 Status Update: Recurring meetings and discussions with four county conservation districts in the Southcentral/southeastern region of the Bay watershed. These CCDs will pilot the Phase 2 portion of the program; the Standard Operating Procedures, Inspection Report, and grant/program guidelines are being revised for this pilot program.
September 2019	Approve a revised P-index planning tool to be used for nutrient management planning efforts in PA.	planning tool on select farms within PA to assess its practicality and effectiveness.	Penn State University, NRCS, State Conservation Commission (SCC), DEP	2019 Status Update: Currently, Penn State University (lead) is still working on background research for parameters to be used in the calculations. This research is expected to be completed in 2020.  Pilot testing and reporting on the revised P-index planning tool on select farms within PA to assess its practicality and effectiveness should be completed in the 2 <sup>nd</sup> half of 2020. Incorporation into NMP and other state programs will commence once approved, starting in 2021.

July 2019	Initiate implementation of Pennsylvania's Agriculture Conservation Stewardship (PACs) Program	Finalize draft program guidance and farm assessment form.  Perform a "table top" exercise involving third party verifiers, conservation districts, and agency staff to test out the functionality of the draft program processes.  Work with program workgroup to finalize the program criteria, using the input from the table top exercise.  Train third party private sector verifiers and county conservation district staff to authorize their involvement in the PACS program.  Pilot the program in select counties to initiate program implementation and to assess if any additional revisions are needed to the program.	(PDA), State Conservation Commission, DEP, PACS Stakeholders Workgroup	2019 Status Update: PACs is in a holding pattern until PA Department of Agriculture can obtain additional staff support.  PDA has a position that should be filled shortly and a pending multi-purpose grant from EPA that will fund an annuitant position.  Once one of those staff resources is in place, PDA will be able to begin moving PACs forward.

agricultural and stormwater BMP implementation in the Fishing Creek watershed, a targeted priority watershed.	restoration and streambank stabilization BMPs along several reaches of the Fishing Creek watershed in Lancaster County as part of a NFWF grant sponsored by PDA.  Consider the augmentation of a current NFWF grant in the Fishing Creek watershed in	SCC DEP DCNR PA Fish & Boat Commis sion Other partners	plans and manure management plans (MMPs). The on-site assessments:  1. Determined and documented baseline compliance with Pennsylvania's
			barnyard management systems

	Numeric Outputs completed include  1. Number of developed or updated plans for landowners:  a. 25 Ag E&S plans b. 21 manure management plans  2. Linear feet of livestock exclusion fencing installed: 1,800  3. Installed several in-stream habitat restoration BMPs: 2,550 linear feet of a tributary to Fishing Creek.
	2018: PDA is sponsoring a NFWF grant focused on development of conservation plans; livestock stream exclusion; plan implementation; implementation of an innovative income-producing forested buffer component; demonstration of a direct correlation between BMPs and herd health; and water quality monitoring. The estimated numeric outputs are 39 Manure Management and 28 Ag E&S plans; 73,761 linear feet of exclusion fencing; 50 off-stream watering systems; and 30 crossings.

September 2019	Investigate the incorporation of	PA's Phase 3 WIP will	SCC, DEP,	2019 Status Update:
	alternative manure treatment	identify areas (counties) of	PA WIP	PA's Phase 3 WIP has identified Manure
	technologies and other potential	excess manure nutrient	Agriculture	Treatment and Transport as one of the seven
	strategies to address areas of	generation in relation to crops	Workgroup,	priority initiatives. The SCC is further
	excess manure nutrient	grown in the county.	PA WIP	refining the documentation and reporting of
	generation.		Steering	manure transport across county boundaries
		PA's Phase 3 WIP will	Committee	through its Act 49 Manure Hauler/Broker
		identify various strategies to		program.
		minimize nutrient imbalances		
		in areas of excess manure		
		nutrient generation, including		
		the incorporation of manure		
		treatment technologies as they		
		are determined to be feasible.		

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Forestry				
Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
2018 – 2019 (Ongoing)	Buffer and Forestry Outreach	Annually award Community Conservation Partnership Program, TreeVitalize, and PennVest grants to partners for buffer installation.	DCNR	2019 Status Update: Annual awards have continued through the TreeVitalize and C2P2 programs. The final annual pilot PENNVEST grants were awarded in late 2019: a total of \$3 million was awarded through this program and will be implemented through 2022.
		Implement DCNR's NFWF grant, StreamReLeaf, which will result not only in buffers on the ground, but a communication strategy to inform additional targeted outreach and an improved tracking system for riparian forest buffers.		2019 Status Update: The NFWF INSR Stream ReLeaf grant is entering its final year in 2020. Through 2019, 61.5 acres were contracted and planted, and a marketing firm (PPO&S) was contracted. New marketing materials will be completed in 2020. DCNR and DEP are cooperating to add a partner BMP submission module for buffers to PracticeKeeper, which will be launched in early 2020.
		Advance outreach and communications through hosting an annual summit, publishing a bi-monthly newsletter, developing additional outreach materials, and participating in events.		2019 Status Update: Annual Buffer Summits have continued with great success, reaching 250+ attendees. The bi-monthly newsletter is briefly on hold, but will return in 2020. Outreach materials are being developed through PPO&S via the NFWF grant. DCNR buffer staff continues to regularly participate in and present at a variety of events.

		Develop and implement the Phase 3 WIP for forest buffers, tree canopy, and land conservation.		2019 Status Update: The Phase 3 WIP was completed in 2019, and DCNR and its partners are moving into implementation in 2020.
		Continue to convene the Riparian Forest Buffer Advisory Committee.		2019 Status Update: Advisory Committee meetings continue to be held quarterly. Short-term Action Teams have been added to move forward specific causes. Action Teams in 2019 consisted of Summit Planning, Farm Bill Review/Response, Flooding, and Marketing.
October 2019	Develop an income - producing forested buffer pilot project.		PDA, SCC, DEP, DCNR, PA Fish & Boat Commission Other partners	2019 Status Update: Due to lack of local interest and lack of consistent forest buffer outreach by partners in the area, DCNR is no longer playing an active role in this project. Some forest buffers will be installed in Fishing Creek by Donegal Trout Unlimited.

	t Sewage and Industrial Facilities			
Target	Milestone (WIP page	Deliverable	Lead	Comments/Status Updates
Date	reference)*		Agency	
This sector has exceeded its WIP milestone goals.	Issue and re-issue NPDES permits to include Annual Net Mass Load limitations ("cap loads") for all significant sewage and industrial waste dischargers and new dischargers where available capacity does not exist to implement the Chesapeake Bay TMDL.	NPDES permits with cap loads.	DEP	2019 Status Update: All facilities that are identified in the TMDL as needing cap loads have been issued final NPDES permits with cap loads. DEP's Phase 3 WIP Wastewater Supplement was updated on December 17, 2019, and has been posted to <a href="https://www.dep.pa.gov/npdes-bay">www.dep.pa.gov/npdes-bay</a> .
Ongoing	Improved water quality at POTW outfalls and receiving streams through implementation of a wastewater optimization program. The wastewater optimization program is designed to optimize nutrient reduction through low-cost operational improvements. DEP will target POTWs that are discharging the highest nutrient levels and/or nutrient loadings.	Conduct performance assessments for at least five POTWs annually	DEP	2019 Status Update: This milestone is also reported in DEP's semi-annual 106 grant progress reports. DEP will continue to report this in the 106 report.  The group conducting these assessments has been reduced to one individual since 2014, so the number of annual assessments has been reduced from six to five.

June 2019	DEP will attempt to issue the remaining significant industrial discharge permit without cap loads and the two remaining significant Chesapeake Bay permits that EPA had objected to in 2014.	Issue final permits	DEP	2019 Status Update: Completed.
Municipal Storm Target	Milestone (WIP page	Deliverable	Lead	Comments/Status Updates
Date	reference)*	Denverable	Agency	Comments/Status Opuates
July 2018	Launch MS4 electronic annual reporting system to collect BMPs and MS4 activities electronically.	New MS4 annual reporting system.	DEP	2019 Status Update: A pilot system test was conducted with approximately 30 MS4s in York and Lancaster Counties during Summer 2019. The pilot was generally successful but the developer of the system, Penn State, determined it would be unable to support the system long-term. DEP is evaluating its capabilities to complete and support the system in-house.
December 2018	Complete initial reviews of Chesapeake Bay Pollutant Reduction Plans that were submitted in September 2017.		DEP	2019 Status Update: DEP has completed the initial review of all Chesapeake Bay PRPs. There are many PRPs that are still considered deficient, awaiting updates by applicants.
December 2019	Develop a concept paper for changes that will be pursued for the next round of MS4 general and individual permits starting in 2023, consistent with DEP's Phase III WIP.	Concept paper	DEP	2019 Status Update: A concept paper was developed for the 2023 MS4 permit term. An internal meeting was held on December 30, 2019. It was determined that a more focused paper would be needed. This paper is under development.

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Ongoing	Continue providing outreach and training to regulated community on MS4 permit implementation.	Ongoing training as needs arise.	DEP	2019 Status Update: DEP MS4 staff continuously meets with MS4 permittees, consultants and legislators on implementing the requirements of the 2018-2023 permit term and assists DEP regional staff with reviews of PRPs and TMDL Plans.  2018 Status Update: DEP MS4 staff continuously meets with MS4 permittees, consultants and legislators on implementing the requirements of the 2018- 2023 permit term and assists DEP regional staff with reviews of PRPs and TMDL Plans.
September 2019		DEP regional office staff performing MS4 inspections.	DEP, EPA	2019 Status Update: MS4 inspector training was held during Spring 2019.
December 2018	inter- and intra-municipal MS4	Framework for implementation of flexible, cost-effective projects.	DEP	2019 Status Update: DEP updated its MS4 FAQ document, available at <a href="https://www.dep.pa.gov/MS4">www.dep.pa.gov/MS4</a> , to include additional flexibilities and collaborative options for MS4s during the Summer of 2019.

	rmwater (Chapter 102)			
Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
June 2019	Complete a draft PAG-02 General Permit package that is generally consistent with EPA's CGP and achieves objectives agreed upon by DEP and EPA.	Draft PAG-02 General Permit package		2019 Status Update: The reissued PAG-02 General Permit was published for a new five-year term in the Pennsylvania Bulletin on December 7, 2019.
December 2019	Publish a draft of the PA Stormwater BMP Manual in the Pennsylvania Bulletin.	Draft Stormwater BMP Manual		2019 Status Update: Villanova University has completed a preliminary draft of the entire BMP Manual. This draft is undergoing preliminary internal review. DEP expects that a draft of the revised manual will be published in 2020.

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Trading and Offs	ets			
Target	Milestone (WIP page	Deliverable	Lead	Comments/Status Updates
Date	reference)*		Agency	
December 2019	By compliance year, identify the pollutant reduction activities that generated certified, verified and registered credits and the number of credits associated with each activity that are consistent with the expectations of the TMDL.		DEP	2019 Status Update: For the 2019 Compliance Year, 632,125 N and 68,952 P Credits were verified (available for trade). A total of 635,145 N Credits and 34,550 P Credits were registered (traded). Of the credits registered, 575,781 N and 34,527 P Credits came from wastewater treatment plants; 18,859 N Credits originated from ag BMPs; and 40,505 N and 23 P came from the export of poultry litter out of the watershed. 23,589 N Credits and 7,724 P credits were brokered (bought and resold, so registered twice).  2018 Status Update: For the 2018 Compliance Year, 556,513 N and 50,743 P Credits were verified (available for trade). A total of 556,144 N Credits and 30,849 P Credits were registered (traded). Of the credits registered, 479,066 N and 26,998 P Credits came from wastewater treatment plants; 26,210 N Credits originated from ag BMPs; and 50,868 N and 3,851 P came from the export of poultry litter out of the watershed. 73,009 N Credits and 680 P credits were brokered (bought and resold, so registered twice).

December 2018	Develop a credit calculation tool(s) for the generation of nonpoint source credits that is consistent with the Chesapeake Bay TMDL and the revised definitions for point source and nonpoint source baseline.		DEP EPA	2019 Status Update: DEP is evaluating the possibility of using the Nutrient Trading Tool (NTT) currently utilized by some other Bay states.  2018 Status Update: DEP is evaluating the possibility of using the NTT currently utilized by some other Bay states.
September 2019	Revise the Chesapeake Bay NTT and associated Trading Registry, to allow for their use in calculating and tracking nutrient reductions and marketable credits attributed to BMPs installed in Pennsylvania.	Revised NTT tailored to support and be consistent with PA program regulations and policies  Revised Chesapeake Bay Trading Registry and Marketplace database tailored to support and be consistent with PA program regulations and policies, and link this trading registry to the data reported in the NTT	EPA, DEP	2019 Status Update: DEP is evaluating the possibility of using the NTT currently utilized by some other Bay states.  2018 Status Update: DEP is evaluating the possibility of using the NTT currently utilized by some other Bay states.

December 2019	Revise Nutrient Trading and Offsetting polices, and regulations if necessary, to document state program decisions made to move to a performance based agriculture	Revised nutrient trading policies outlining the use of a new performance based agriculture baseline determination and credit calculation process.	DEP	2019 Status Update: Phase 3 WIP was finalized the end of 2019. Regulation revisions were on hold at least until Phase 3 WIP was finalized.  DEP is evaluating the possibility of using the NTT currently utilized by some other Bay
	baseline determination and nutrient credit calculation process.	Draft revised Nutrient Trading and Offsetting regulations, if revisions to the regulations are found to be necessary, to incorporate a performance based agriculture baseline and nutrient credit calculation process.		states.  2018 Status Update: Phase 3 WIP currently in development. Regulation revisions on hold at least until Phase 3 WIP is finalized. DEP is evaluating the possibility of using the NTT currently utilized by some other Bay states.

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Tracking and R	<u> </u>			
Target	Milestone (WIP page	Deliverable	Lead	Comments/Status Updates
Date	reference) *		Agency	
Ongoing	Continue to enhance and build the capability of the BMP Warehouse through ongoing enhancement of the Worldview and PracticeKeeper software (PK).	A group of software applications that have a common theme, BMP data, that will serve as a repository for BMP information that must be reported to the Chesapeake Bay program, in addition to providing management tools for other activities.	DEP	2019 Status Update: The scope of work has been established and proposal request has been made for development of the Data Warehouse application.  PracticeKeeper modifications to enhance functionality were completed in 2019 and are ongoing to include integration with Data Warehouse and the Chesapeake Commons FieldDoc application.
December 2019	Improve/revise DEP program guidance and data management systems to track and verify increased compliance and inspection program, to include DEP Agricultural Compliance, Enforcement, and Inspection Standard Operating Procedures (SOP) for Non-CAFO farms, Bay Ag Inspection SOP, and associated inspection reports.	Enhanced modules of PracticeKeeper for use to track and verify program implementation	DEP	2019 Status Update: Historic Chesapeake Bay Agricultural Initial Inspection Program data were loaded into PracticeKeeper (PK).  The scope of work has been established and proposal request has been made for enhancements to the Agriculture Inspection Module and BMP Module necessary to implement the Standard Operating Procedures (SOPs). The SOPs are on hold until the PK enhancements are complete.  CBP-23 report is now generated using PracticeKeeper and all Inspections, NMPs, MMPs, Ag E&S Plans, Conservation Plans and BMPs associated with the report are entered into PK by the Conservation Districts and tracked by DEP using PK.

May 2018	enhancements to Pennsylvania's BMP Verification Program Plan to include lessons learned from the Penn State Survey, the NRCS Remote Sensing Pilot Project completed in the Potomac Basin, the ongoing CTIC surveys and other appropriate efforts.	BMP Verification Program.	DEP/PDA	All NMA reports are now generated using PK, and all related NMPs, MMPs, Outreach & Training Activities, Complaints, Status Reviews, BMPs, and Brokered Manure Transfers are entered into PK by the Conservation Districts and tracked by DEP using PK.  Historic DCNR Riparian Forest Buffer data were loaded into PK and future DCNR Riparian Forest Buffer projects will be reported in PK.  2019 Status Update: Conservation Technology Information Center (CTIC) Survey work was completed through 2019 and is planned to continue. Development of an updated Voluntary Producer Survey with Penn State University and PDA (lead) was initiated in 2019 with execution planned for 2020. DEP is working with EPA, USGS and NRCS to identify ways to improve USDA BMP reporting (EPA lead, ongoing).
May 2018	Revise Chesapeake Bay Regulatory Accountability Program (CBRAP) grant workplan and budgets in accordance with the strategy to fund future BMP verification efforts.	FY19 grant workplan	DEP	2019 Status Update: CBRAP2 workplan was last revised in December 2019 to include funding reallocated by EPA to DCNR for Riparian Zone Restoration. CBRAP3 workplan was last revised in October 2019 and includes continued BMP verification efforts with PK.

July 2018	Revise Pennsylvania's BMP Verification Program Plan in accordance with the strategy, if needed.	Revised, if necessary, Pennsylvania BMP Verification Program Plan		2019 Status Update: Pennsylvania's revised BMP Verification Program Plan was submitted with the Phase 3 WIP in August 2019.
August 2018	Begin implementation of the revised Pennsylvania BMP Verification Program Plan, once approved by EPA.			2019 Status Update: BMP Verification work is ongoing.
Federal Facilitie Target Date	Milestone (WIP page	Deliverable	Lead	Comments/Status Updates
	reference)*		Agency	
November 2018	Enter Federal Facility BMP data into NEIEN for 2018 Progress Run	BMP Implementation and Reporting	СВР	2019 Status Update: Federal Facility BMP data as provided by Federal Facilities was uploaded to NEIEN
				for 2018 Progress.

Other/Category				
Target Date	Milestone (WIP page reference) *	Deliverable	Lead Agency	Comments/Status Updates
December 2019	Continue Legacy Sediment and Aquatic Ecosystem Restoration (LSAER) Implementation and Tracking	BMP Implementation and Reporting of approximately two projects per year.	DEP	2019 Status Update: DEP Programs participated in EPA's Chesapeake Bay Wetland and Urban Stormwater Workgroups, along with various expert panels, regarding BMP development and crediting. Chapter 105/401 WQC approvals were provided for one project in 2018 and four projects in 2019. For the 2019 approvals, implementation is expected in 2020.  2018 Status Update: Work to establish LSAER BMP as a stand- alone practice by working through the Bay workgroup and expert panel protocols.

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Target Date	Milestone (WIP page reference)*	Deliverable	Lead Agency	Comments/Status Updates
July 2018	Definition of the expected reductions from (1) existing programs and policies, (2) any enhancements to these programs and policies or any new innovations or initiatives and (3) a list of the priority, most effective practices to be utilized by sector.	County-specific summary of this analysis to include defined planning goal, progress made so far and remaining level of effort.	Support Group, WIP Steering	2019 Status Update: Priority BMP initiatives were developed through the pilot Countywide Action Plans and state Phase 3 WIP submitted in August 2019.
February 2018	A clear description of the water quality trends and water quality impairment in the watershed.	Watershed Story-line.	DEP, SRBC	2019 Status Update: County-specific Toolboxes were created and provided to the four WIP pilot counties. Technical staff, in coordination with EPA Chesapeake Bay Program Office staff, continue to work with counties on diving deeper into water quality data and information to assist counties with targeting priority areas.
August 2018	The development of a county-based story that combines the results of the above two milestones for use in: identification of gaps in implementation and resources; development of county-based local planning goals; and messaging as part of Local Engagement Strategy.		WIP Technical Support Group, DEP, SRBC, EPA Bay Program Office	2019 Status Update: County-specific Toolboxes were created and provided to the four WIP pilot counties. Technical staff, in coordination with EPA Chesapeake Bay Program Office staff, continue to work with counties on diving deeper into water quality data and information to assist counties with targeting priority areas.

Summer 2018	Watershed Agreement Outcomes that have been identified as having the most potential for co-	Incorporation of Watershed Agreement outcomes into action plans and text of Phase 3 WIP as appropriate.	WIP Workgroups, DEP and EPA CBPO	2019 Status Update: 12 Watershed Agreement outcomes incorporated into PA's Phase 3 WIP.
February through August 2018	Development and implementation of the Local Engagement Strategy.		DEP, WIP Steering Committee and Workgroups	2019 Status Update: Through assistance with Phase 3 WIP Communications and Engagement Workgroup, and with assistance from contractors, Pennsylvania developed its local engagement strategy and incorporated it into Phase 3 WIP.
March through October 2018	of a process for the development		Workgroup, other WIP workgroup co- chairs, DEP CBPO,	2019 Status Update: PA's Phase 3 WIP Steering Committee approved local planning goals recommended by its Local Area Goals Workgroup, who worked closely with EPA Chesapeake Bay Program Office staff to gather data and information needed to recommend county-based planning.  A four-county Countywide Action Plan (CAP) pilot was developed to test the planning process at the county level. The four pilot counties completed final plans—Adams, Franklin, Lancaster and York. All of this was included in Pennsylvania's Phase 3 WIP, along with a timeline for establishing CAPs in the remaining 39 counties.

August through September 2018	Draft the Phase 3 WIP.		DEP	2019 Status Update: Completed and submitted to EPA in August 2019. Available at: https://www.dep.pa.gov/Business/Water/P ennsylvania's%20Chesapeake%20Bay%2 0Program%20Office/WIP3/Pages/PAs- Plan.aspx
December 2018	30 Day Public Comment Period.	Written comments.	Stakeholders, General Public	2019 Status Update: Completed
April/May 2019	Develop a Comment Response Document to the comments received during the 30-day public comment period held when the draft Phase 3 WIP is released.	Comment/Response Document.	DEP, WIP Workgroup Co- Chairs and Steering Committee	2019 Status Update: Completed
March 2019	Submit final draft Phase 3 WIP to the Bay Program Partnership for review and comment.	Draft Phase 3 WIP.	DEP, with recommendations from the WIP Steering Committee	2019 Status Update: Completed.
May 2019	Respond to comments received from the Bay Program Partnership.	Revised Draft Phase 3 WIP.	- I	2019 Status Update: Completed.
June 2019	Finalize and post the approved Phase 3 WIP on the DEP website. Begin implementation.	Final Phase 3 WIP.	DEP	2019 Status Update: Completed. Available at: https://www.dep.pa.gov/Business/Water/Pennsylvania's%20Chesapeake%20Bay%2 0Program%20Office/WIP3/Pages/PAs-Plan.aspx

<sup>\*</sup> As part of the adaptive management process for achieving water quality goals, jurisdictions may submit programmatic milestones that modify, are in place of, or are in addition to milestones listed in their WIPs so long as the jurisdiction can demonstrate that they will be as effective toward meeting water quality goals.