

Maryland’s 2016 – 2017 Programmatic Two-Year Milestones

Target Date	Milestone	Deliverable	Lead Agency	Comments/Status Updates
Point Sources				
2016-2017	Improve point source data quality through NetDMR implementation. -Advocate NetDMR reporting to all NPDES permittees. -Train NPDES permittees on using web-based NetDMR system. - Facilitate creation of NPDES and outfall specific NetDMR accounts, approval of administrator authority and going “live” with data entry.	Report NetDMR implementation.	MDE - WMA	Federal Rule CFR 127, 81FR62395 requires all regulated NPDES facilities that currently submit paper DMRs to electronically submit DMRs as of December 21, 2016. Outreach activities, including hosting 29 netDMR Training sessions for outside entities and responding to over 980 phone calls and 831 emails. This has resulted in all 78 major NPDES facilities and a total of 1,418 NPDES permittees being registered and approved to submit DMRs electronically.
Point Sources/Major Municipal				
2016-2017	Upgrade Major WWTPs to ENR with State grant/loan support.	A cumulative total of 63 of 67 major WWTPs will have completed construction.	MDE - WQFA	Maryland’s Phase II WIP called for upgrading 67 major WWTP plants with State funds*. MDE is on track to meet this goal. State funds are available and MDE seeks Maryland Board of Public Works approval upon initiation of construction. Current status as of 12/1/2017: 54 of the 67 WWTPs are in operation 10 are under construction 2 in design 1 in planning * 9 additional federal and privately owned plants, being upgraded at their own expense, are not included in this accounting.

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				Status updates are posted online: http://mde.maryland.gov/programs/Water/BayRestorationFund/Pages/wwtp_enr_upgrade.aspx
Point Sources/Minor Municipal				
2016-2017	Upgrade minor WWTPs to ENR with State grant/loan support.	A cumulative total of 8 minor WWTPs will have completed construction; the Phase II WIP goal requires 5 minor plant upgrades. MDE will provide an inventory of WWTPs that have been upgraded and those scheduled for upgrades based on an EPA template.	MDE - WQFA	Maryland’s Phase II WIP called for upgrading 5 large minor WWTPs to achieve about 50,000 pounds of nitrogen reduction. MDE has met the goal for minor WWTP upgrades. Currently State funding is being allocated to 18 minor plants. Current Status as of 12/1/2017: 6 WWTPs are in operation 4 are under construction 3 in design 3 in planning Status updates are posted online: http://mde.maryland.gov/programs/Water/BayRestorationFund/Pages/wwtp_enr_upgrade.aspx
Point Sources/Minor Industrial				
2016-2017	Update minor industrial nutrient load data.	Summary of the minor industrial load data updates.	MDE - WMA/SSA	Current status as of 11/29/2017: Since 2012, MDE has reviewed loads from 105 facilities (18 reviews done in Federal Fiscal Year 2017) out of approximately 154 minor (non-significant) industrial facilities that discharge to Bay watersheds (68%). MDE’s reviews continue to show that the estimated loads are significantly below the target loads for 2017.

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				Specifically, for TN, TP, and TSS, the FFY2017 estimated loads are below the 2017 target loads by 67%, 19%, and 76%, respectively. Furthermore, the FFY2017 estimated loads for TN and TSS are below the 2025 target loads by 62% and 83%, respectively. Maryland still has to make progress on TP for 2025, as the FFY2017 estimated load for TP is 2% above the 2025 target load.
Septic Systems				
2016-2017	<p>Facilitate implementation of septic connections to ENR facilities in Critical Area and other areas of Maryland with funding support of BRF funds.</p> <ul style="list-style-type: none"> - Provide technical and policy assistance to local governments to facilitate connections of septic tanks to WWTPs. - Market recent changes in the eligible use of BRF as a funding source for septic connections to ENR facilities. 	<p>Report number of Septic Connections to ENR facilities.</p> <p>This new program will be in the December 2015 and future solicitations</p>	<p>MDE WMA/ MDP MDE - WQFA</p>	<p>Current Status: Milestone Period: 7/1/15-6/30/17 BAT Installations: 2067 Public Sewer Connections: 198 Holding tanks: 20 Drainfields with BRF Money: 5</p> <p>This program started in FY 2018 (7/1/2017)</p> <p>MDE and MDP gave presentations at a one-day workshop hosted by the Healthy Waters Round Table at the Chesapeake College on December 14, 2016 to provide guidance to Eastern Shore counties and municipalities on best approaches to successfully implement septic system connection projects. MDE gave presentations regarding septic connections, including about funding available to do so, at its Groundwater Symposium on September 28, 2017 at Martin’s West in Baltimore MD.</p>

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				Throughout the two years, MDE and MDP provided feedback and guidance to Talbot County regarding its large-scale septic connection proposal.
2016-2017	Improve tracking and reporting of O&M and BAT upgrades via newly developed and launched net-based BAT data tracking database.	Reports to SSA (Bay Program) on BAT implementation and O&M.	MDE - WMA	Net-based Database is being utilized by all counties and MDE for tracking. MDE's OIT is working with WMA to enhance tracking capabilities. Operation and Maintenance of individual BAT systems is being tracked at the county level by 12 of the 23 counties utilizing the MDE database. O&M providers, Vendors and County personnel are entering information regularly. Non Compliance notification has begun in accordance with COMAR. The MDE reformed the regulation requiring service contracts on BAT installations. There are new requirements for two-year operation, maintenance, and warranty with each BAT installed in MD.
2016-2017	Review and expand a range of new, innovative, cost-effective nutrient removal BAT technologies to be available for upgrade of septic systems in Maryland.	Develop criteria for evaluation and selection of new BAT systems utilizing national peer reviewed BMPs (soil distribution and other innovative practices.)	MDE - WMA	Class I, II, III, IV and V BAT systems criteria has been developed in response to the OSWTS Nitrogen Reduction Technology Expert Review Panel recommendations. The Classes cover all aspects of N reduction capabilities from onsite systems from traditional BAT to soil dispersal systems.
Urban Stormwater/Phase I MS4				
2016	Phase I MS4 Financial Assurance Plans. - Analyze all financial assurance plans based on the	Report on the status of Phase I MS4 Financial Assurance Plans by September, 2016.	MDE - WMA	MDE completed reviews of the financial assurance plans according to the specific criteria in Maryland law and provided these evaluations to the CBP and EPA, Region III

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	specific criteria in Maryland law for what constitutes an adequate financial assurance plan.			on 10/19/2016. Additionally, the reviews may be found on MDE's webpage here: http://mde.maryland.gov/programs/Water/StormwaterManagementProgram/SedimentandStormwaterHome/Pages/WPRPFinancialAssurancePlans.aspx
2017	Report Phase I MS4 BMP implementation for Progress via newly developed GIS database.	Database output	MDE - WMA/ SSA	Phase I MS4s have begun to use MDE's GIS database for BMP implementation reporting. The use of this database will be a requirement in all future MS4 Phase I permits.
2016-2017	Maryland will develop an MS4 permit template for EPA review that articulates the requirements of the Phase I permits set to expire in 2018. A draft will be shared with the Agency and a final will be developed based on that feedback before the end of the 2016/2017 milestone period.	Provide draft and final MDE template to EPA	MDE-WMA	MDE has been working with environmental groups, the Maryland Association of Counties, and EPA to make updates to the current MS4 template. MDE will submit a draft MS4 template to EPA by the end of 2017 in accordance with Bay milestones.
2017	Montgomery County Phase I MS4 Permit	Current Montgomery County permit will be administratively continued. MDE will enter into Consent Agreement with Montgomery County.	MDE - WMA	MDE is negotiating a Consent Agreement with Montgomery County.
2016-2017	Maryland will review, approve, and/or take appropriate enforcement actions according to established SOP on Phase I	Provide MDE review documents to EPA.	MDE - WMA/ SSA	MDE completed evaluations and took appropriate action on 100% of the MS4 restoration plans for Anne Arundel, Baltimore, Carroll, Charles, Frederick,

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	MS4 Restoration Plans submitted during or prior to the 2016/2017 period. Maryland will report to EPA on the status of reviews quarterly towards a target of completing at least 50% of the review actions by the end of 2016 and 100% by the end of 2017.			Harford, Howard, Montgomery, and Prince George's Counties; Baltimore City; and Maryland State Highway Administration, which have been submitted to the EPA and the CBP.
2016-2017	Keep MS4 Guidance up-to-date. – Include latest BMP efficiencies and flexibility in meeting permit requirements and 2025 goals.	Updates as appropriate	MDE - WMA	MDE has continued to update the MS4 community on the latest BMP efficiencies and will incorporate any new BMPs into MS4 Guidance in coordination with the updated MS4 template permit.
2016-2017	Market BRF as an eligible funding source for SWM Retrofit implementation.	This new program will be in the December 2015 and future solicitations	MDE - WQFA	This program began in FY 2018 (7/1/2017). MDE markets BRF as an eligible funding source for SWM BMPs via its Water Quality Financing Administration (WQFA) webpage and WQFA's annual solicitation for projects.
Urban Stormwater/Phase II MS4				
2016-2017	Issue Tentative Determination for Phase II MS4 permits - Review Draft Phase II permits for consistency with outcomes of the legal issues associated with Phase I MS4 permits.	September 30, 2016	MDE - WMA	MDE has negotiated final Phase II MS4 General Permits with EPA, Region III, and received formal concurrence from EPA on December 5, 2016. The permits have been updated to include the EPA November 17, 2016 general permitting rule regarding specificity and public participation. MDE issued tentative determinations for both general permits on December 23, 2016.

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	- Review and incorporate EPA’s final stormwater general permitting rule, to be published by EPA by November 17, 2016, into Maryland’s Phase II MS4 general permits. Final Determination for Phase II MS4 permit	March 31, 2017		MDE hosted public hearings for these permits on February 6, 2017 and allowed public comments through March 30, 2017. MDE continues to meet with phase II entities to provide the necessary outreach to support a successful program, is developing a response to comments document, and anticipates issuing Final Determinations by March 30, 2018 in accordance with Bay milestones.
Agriculture				
2016-2017	Solicit proposals for funding that will support demonstrations for alternative technologies that use and manage animal waste, including manure-to-energy technologies.	Solicitations will be forthcoming in FY2016 and FY2017.	MDA - DNR	Chesapeake and Atlantic Coastal Bays Trust Fund: Animal Waste Technology Fund MDA has approved 7 projects for use of FY14, FY15 and FY16 funds. Four projects utilize poultry litter, one dairy manure and two horse manure. Seven different technologies are being demonstrated. No projects were funded from grant solicitation for FY2017.
2016-2017	Facilitate and provide continued service in FY2016 and 2017 for the Manure Matching Service in support of the Maryland Phosphorus Initiative.	Connect livestock producers who have excess animal manure with other farmers or alternative use projects that can use the product as a valuable resource	MDA	During 2017, 16 receiving operations and 8 sending operations participated in the program
2016-2017	Certify the verifiers for the Agricultural Certainty program.	Work closely with the Nutrient Trading Program and anticipate future trades will be used in conjunction with the Certainty Program. Continued outreach to local	MDA	MDA has certified six verifiers. MDA continues to participate in agricultural

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		farm community		forums to promote the Certainty Program
2016-2017	Accounting for growth in the Poultry Industry	<p>Document current and future growth in the poultry industry through CAFO/MAFO permits numbers and reconcile those against NASS annual numbers.</p> <p>Estimate nutrients associated with manure incrementally over two year milestone period</p>	MDA	<p>MDA, in cooperation with MDE’s CAFO/MAFO permit authority, will review expected poultry inventory for comparison with NASS data. Concurrently, MDA will pursue information from industry partners on poultry inventory both for new growth versus replacement inventory.</p> <p>Data sources for submission to CBPO modelers to align with Poultry Litter Subcommittee Report for inclusion in the model is TBD</p>
2016-2017	Phosphorus Management Tool using a phased-in approach through 2022 with potential to extend to 2024 for reasons of resource shortfalls.	<p>Conduct a two year study (2015-2016) "PMT On-Farm Economic Analysis Project" to better understand outcomes and impacts of requirements.</p> <p>Collecting soil analysis data to better understand the scope of farm fields with phosphorus FIV levels above 150.</p> <p>Collect information to track</p>	MDA	<p>Regulation took effect June 8, 2015, restricting all farms with phosphorus FIV levels over 500 from applying manure. Two year’s data has been collected and reviewed for purposes of the economic study.</p> <p>As of November 2017, soils phosphorus data has been collected on 1,105,130 acres. Of the collected data, only 20.6% of sampled acres are subject to PMT evaluation and potential management changes.</p> <p>Collection of Tier information was initiated</p>

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		operations according to the appropriate Tier that will govern PMT implementation schedule.		in 2016. In 2017 over 1,600 operations have been placed into tier groups as required by regulation. Tier group C= Avg. P-FIV >450 begins the first transition phase in 2018 towards the full implementation of the PMT in 2022.
2016-2017	CAFO Permit/Registration Maryland will make its best effort to ensure all new CAFO/MAFOs receive permit coverage	Increased registrations	MDE	During the current permit term, MDE has registered 483 farms out of the known 624 total. For the remaining permit term MDE has 141 registrations to complete. The current term ends in December 2019.
Nutrient Trading Policy				
2016-2017	Finalize Draft Maryland Trading and Offset Guidance Manual Explore potential for pilot projects. Finalize actions/recommendations of the Maryland Water Quality Trading Advisory Committee (WQTAC).	Final Maryland Trading and Offset Guidance Manual – January 2017. 2017-Report on status of the Pilot Projects.	MDE - MDA	The Draft Maryland Trading and Offset Guidance Manual is being reviewed by WQTAC. It consolidated MDE’s 2008 point-to-point trading policy, MDA’s trading policy documents and incorporated new trading policy for MS4 jurisdictions. WQTAC is completing the review of the Draft and will identify any needed amendments to State law and regulations, or any other actions to implement trading. MDE and MDA revised Draft Trading Manual based on the WQTAC comments. Final Draft of the Trading Manual was provided to WQTAC in September 2016. MDE/MDA received additional comments from WQTAC in November 2016 and EPA in December of 2016. 2017 Update of the Final Draft was completed in April of 2017 and addressed WQTAC comments. WQTAC members called for the development of the Trading Regulations.

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				Proposed Regulations, COMAR 26.08.11, package was submitted for AERL review once in October 2017. Based on additional comments it was further updated and resubmitted to AELR on 11.8.17. Regulations were published on 12.8.2017. Public hearing occurred on 12.18.17. MDE expects to adopt regulations in early 2018.
2016-2017	Accounting for Growth	Policy on AfG	MDE	Continue formulation of an accounting for growth policy and regulations if appropriate
2016	Regulations that establish the requirements and standards for the generation and certification of nutrient and sediment credits on agricultural land.	Final Regulations	MDA	Revised regulations were adopted August 29, 2016, but some additional changes may be necessary when final trading program regulations are adopted.
Sector Growth Demonstration				
2016-2017	Sector Growth Demonstration	Sector Growth Demonstration Documentation	MDE - SSA	From EPA Interim Evaluation (June 2016): EPA expects Maryland to continue to identify new or increased sector loads and offset these within the appropriate timeframe and to continue to track and account for new or increased loads identified in sector growth demonstrations. The demonstration should address how to quantify and offset any increase of nutrients from increases in poultry houses that are projected for the Delmarva region
Other				
2016-2017	Market recently approved eligible uses of BRF and other State Funding Programs to increase implementation of Septic Strategies, SWM	WQFA has already started with the solicitation to fund minor WWTPs. New programs will be part of December 2015 funding	MDE - WQFA	Please see minor WWTPs status above.

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	retrofits, Minor WWTP upgrades.	solicitation and every year thereafter, which will introduce these funding programs to over 600 eligible applicants.		
2016 – 2017	Chesapeake and Atlantic Coastal Bays Trust Fund: Cost-Effective Non-Point Source Pollution Reduction Projects	Increase funding available for competitive solicitations of the most cost-effective, efficient nonpoint source pollution reduction projects by exploring opportunities for private capital and continued leveraging of public funds.	DNR - Bay Agencies	The Trust Fund awarded \$21.54 M through a local competitive solicitation to 18 projects in targeted areas of the state. On November 27, 2017, the state issued a new competitive solicitation for FY19 funding, estimated to be a \$21 M opportunity. Proposals will be due on March 30, 2018. Trust Fund managers will continue to target the funds based on cost-efficiency, geographic targeting, and readiness and ability to proceed, while exploring legislative and grant mechanism changes to leverage more private capital and investment in non-point source pollution reduction.
2016-2017	Chesapeake & Atlantic Coastal Bays Trust Fund: Strategic & Targeted Monitoring	Continue to monitor targeted Trust Fund projects sites for efficacy and annually issue a Restoration Research grant in partnership with Chesapeake Bay Trust to answer key scientific questions about Non-point Source pollution reduction projects.	DNR	The Restoration Research grant was awarded to six projects in FY17, totaling approximately \$1.2 M to answer distinct restoration questions aimed at informing restoration specialists, regulators, and legislators. Funding from the Trust Fund is supplemented with CBT funds and potentially county funds. A solicitation for FY18 projects will be issued in the winter of

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				2018 for the next round of research proposals. In addition to these monitoring efforts, Resource Assessment Service at DNR continues to provide long-term monitoring of isolated BMPs to determine efficacy and efficiency of state investments.
2016 – 2017	Chesapeake & Atlantic Coastal Bays Trust Fund: Technical Support through Restoration Specialists	Provide continued hands-on landscape level technical assistance to local governments and non-governmental organizations implementing restoration projects in the watershed	DNR	Restoration specialists at the Center for Habitat Restoration and Conservation at DNR continue to provide technical assistance to local governments, watershed organizations, private landowners and others interested in addressing water quality and natural resource management issues with latest science and techniques. These specialists also work with applicants to Chesapeake Bay Trust’s Watershed Assistance Grant, the Trust Fund competitive solicitation and Natural Filters funding to promote best management practice techniques that advance restoration science, outcomes, and cost-efficiency.
2016 – 2017	Chesapeake & Atlantic Coastal Bays Trust Fund: Technical Support through Soil Conservation District staff	Provide continued technical support to evaluate, design, and assist farmers with the installation of BMPs.	DNR - MDA	The Trust Fund provided \$3.29 M in FY16, FY17 and FY18 in support of 66 soil conservation district positions (41 state and 25 local cost-share).
2016 - 2017	Chesapeake and Atlantic Coastal Bays Trust Fund: Innovative Technology Fund	Develop new non-point source BMPs for nitrogen, phosphorus and sediment reduction by: (1) Annually fund 2-6 research and development projects, and	DNR	(1) SFY16 & 17 budget sufficient to sustain this level of implementation; 3 additional research and development investments in spring 2017; one new seed capital investment in summer 2017 (2) Limited funds for one project are available in

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		invest in one commercial project; (2) Develop and implement a new program for pilot scale demonstrations of technologies, providing greater confidence that the technologies will function when implemented under operational conditions; (3) Applicable new innovative BMPs will be reviewed using the Bay Partnership approval process.		SFY16. DNR will continue to pursue partnerships with state, federal, and local government partners, as well as private parties, to enhance field testing of promising Bay restoration technologies; helping to close the gap between research and commercialization; (3) Working with the Bay Program Partnership, MD will continue to offer support for review of various new BMPs. Potential BMPs are: Agricultural Cascading Systems, Permeable Pavement Soil Media. Algal Flow-way Technologies, as well as Floating Treatment Wetlands, were approved in 2016.
2016	BMP Calculator	Design and develop a publicly available open-source application that enables applicants and grantees to estimate the site-specific nitrogen, phosphorus and sediment reductions expected from their implementation projects.	DNR	CBIG funds were used for Chesapeake Commons to develop the tool for the Chesapeake and Atlantic Coastal Bays Trust Fund. The tool is available at FieldDoc.com for calculating reductions from all agricultural and urban stormwater BMPs available for credit in the Watershed Model. Maryland is using Trust Fund dollars to continue supporting and building FieldDoc.com into 2017.
2016-2017	Chesapeake and Atlantic Coastal Bays Trust Fund: Watershed Assistance Collaborative	Provide leadership with a dedicated DNR staff and continue funding for Maryland’s Watershed Assistance Collaborative’s (WAC) effort to expand the communities it works with and improve outreach. Fund	DNR	In addition to the five restoration specialists, long-term financing strategy development is provided by the Environmental Finance Center to local communities. These strategies will address local community stormwater financing and help craft strategies that best meet local needs.

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		and manage two Watershed Specialists' outreach in 9 counties.		A new regional specialist was hired for the Upper Western Shore this year so all regions are now covered.
2016-2017	Local 2-year Milestone Support Funding	Annually provide at least \$1 million in funding to support local two-year milestone implementation.	DNR - MDE	Beginning in FFY14 MDE, DNR and the Chesapeake Bay Trust (CBT) began a collaborative process of administering federal funds to support local 2-year milestone implementation. This is an extension of the Watershed Assistance Grant Program (WAGP) initiated by DNR and CBT. This funding goes toward program development planning and the design of urban stormwater projects. The latter leads to shovel-ready projects for larger capital grant funding of restoration. Funding continued in FFY17 and is in the FFY18 planned budget. Interest in WAGP continues to increase. Both the number of applicants and requested funds increased in FFY17. Awards also increased with \$1.7 million in awards for 22 design and planning grants (subject to board approval at time of drafting).
2016-2017	Create a Maryland Stream ReLeaf Implementation Plan for 2015-2020 through the multi-stakeholder Stream ReLeaf Coordinating Committee	Maryland Stream ReLeaf Implementation Plan for 2015-2020	DNR	The Stream ReLeaf Coordinating Committee met in September 2016 and prioritized the Stream ReLeaf Plan and implementation schedule for 2015-2020. Implementation has been slowed by lack of MACS cost-share in FY17 and permanent loss of Program Manager position.
2016-2017	Stormwater and Nutrient Abatement Program (SNAP)	Implementation of a program to identify, evaluate, prioritize and implement	DNR - SHA	A Memorandum of Understanding between DNR and SHA was executed in October 2016 to provide restoration projects on DNR

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		restoration projects on DNR lands to assist the State Highway Administration in reaching its allocated TMDL reduction.		lands funded by SHA. Two stormwater retrofit projects and two stream restorations are under construction with additional projects coming on-line throughout the milestone period. SHA completed an assessment of stormwater retrofit opportunities in early 2017. Projects will then be selected with design and construction occurring over the next few years.
2016	SMART Homeowner BMP Tracking Tool	Statewide release in fall 2015/winter 2016 of an on-line tracking tool to quantify the contribution of small scale community and homeowner BMPs	UME - DNR	After DNR delivered calculations for the SMART tool, the coding team at Towson GIS was reorganized and the project stalled. UME is currently seeking funding to continue with development for a full scale launch.