2022/2023 Milestone Priorities for Maryland's Phase III WIP

Sector	Milestone	Agency	Steps to Achieve MS Goals	Deliverable	End of MS Evaluation
Agriculture	**Agricultural Drainage Management**	MDA	1) Add drainage management BMPs to MACS Program 2) Collaborate with Conservation Partners to identify opportunities for implementation. 3) Provide appropriate training for drainage management BMP design & installation.	**An additional 3,242 acres managed under Agricultural Drainage Management, annually**	
	Pasture and Grazing Management	MDA	1) Identify opportunities for additional stream exclusion fencing 2) Working with NRCS and UME, MDA will conduct grazing management training for field 3) Re-engage the Horse Outreach Workgroup to provide technical assistance to equine operations 4) Collaborate with conservation partners in securing additional funding to support pasture/grazing operations management.	**295 additional acres under Horse Pasture Management** **2,433 additional acres managed through Prescribed Grazing** **Working with NRCS and UME to conduct training and field events in order to promote grazing management.**	
	Increase Conservation Practice Adoption on Leased Land	MDA	1) Work with conservation partners regarding outreach/education to non-operating landowners 2) Explore options to incentivize conservation participation with non-operation landowners 3) Work with conservation partners to evaluate/combine existing stewardship recognition programs (Certainty, FSCAP, CSP etc)	**Continual collaborative outreach efforts.** **Additional # Landowners reached.**	

Maryland's 2022/2023 Milestones 2.1.2022

	Increased Technical Assistance	MDA, MDDNR	1) MDA has worked with the Governor's office to propose a reallocation of funding from the Chesapeake and Atlantic Coastal Bays Trust Fund to support up to 53 State positions within Maryland that will provide direct technical assistance to farmers and boost the State's BMP verification program to support the WIP. While the funding reallocation was approved, the timeline for hiring is currently being evaluated given the anticipated fiscal impact from COVID-19. 2) In agreements between the Resource Conservation Program and Soil Conservation Districts, funding distribution has been aligned with demonstrated progress towards WIP goals at the local level.	**Additional # positions hired, remaining of 53 created** **New onboarding and training tools - planner and technician training workshops. Partnering with MASCD through a NFWF grant.**	
WASTEWATER	**Increase performance at Major Wastewater Treatment Plants**	MDE	1) Utilize incentive based programs to improve performance at all significant Municipal wastewater treatment facilities: Maryland Bay Restoration Fund Operations and Maintenance Performance (BRF O&M) Clean Water Commerece Act (CWCA) and WQ Trading Program. 2) Return key significant treatment facilities to effluent levels achieved in 2019 and continue to reduce effluent conentrations to a statewide flow weighted average of 2.85 to mitigate nutrient allocations related to climate change by 2025. 3) Complete consent decree to resolve violations at Back River and Patapsco WWTPs.	**-Using these incentives, continue to improve performance of MD's significant WWTPs to achieve the Phase III WIP goal of 3.25 mg/L of TN.** **-Further incentivize MD's significant WWTPs towards achieving 2.85 mg/L TN statewide average by 2025, to address MD's Climate Change allocations.** **-At the end of the milestones period, assess BRF O&M funding and needs as it relates to WWTP performace to ensure additional reductions are being achieved.** **-Fully utilize the BRF O&M performance grant and CWCA to maximize funding to meet WIP and climate goals.** **-At the end of the milestones period, evaluate if additional strategies are needed to achieve goals.**	

Maryland's 2022/2023 Milestones 2.1.2022

	Continue to upgrade non-significant wastewater treatment plants (WWTPs)	MDE	1) Modify the permits for proposed facilities (1-2 per year) to allow for upgrade to ENR. 2) Modify the BRF ranking tool to allow for smaller facilities to qualify for State grants. 3) Prioritize upgrades for the largest, most cost efficient plants in this category.	**2-4 of the largest non-significant WWTPs will be upgraded.**	
Natural Filters	**Oyster Reef Restoration**	DNR	1) Construct reef base on substrate and seed reefs in the St. Marys sanctuary. 2) Complete initial restoration in the St. Marys sanctuary (2022). 3) Construct 100 acres of reef base on substrate and seed sites in the Manokin sanctuary (2023). 4) Complete groundtruthing surveys in the Manokin sanctuary (2022). 5) Continue planned second seeding as necessary in the Little Choptank and Tred Avon sanctuaries. 6) Continue monitoring and sampling to ensure successful metrics as defined by the Chesapeake Bay Agreement	**Complete all initial restoration in the St Marys, with 8.7 acres. Complete 100 acres of inital restoration in the Manokin.**	
	Tree Planting Now Bill	DNR, MDE	1) 13 Tree Corps positions hired by MFS- contracted 2) 1 Program Coordinator position hired by MDE- permanent position 3) 5 Million Trees Program Guidance established by Commission for the Innovation and Advancement of Carbon Markets and Sustainable Tree Plantings 4) CBT grant program established and advertised through wide partnerships	**5 Million Tree Program set up and supporting tree planting with an emphasis on urban underserved areas, documented by tree planting progress tracking.**	

	Incorporate Conservation Plus	DNR, MDP	For the first time, land conservation activities will count toward our Bay goals. This is due to the fact that the Chesapeake Bay Program (CBP) now considers land conservation a best management practice (BMP) similar to cover crops, septic system upgrades, wetlands restoration, and oyster aquaculture. Maryland is recognized as a leader in land conservation and, in order to take advantage of this new opportunity, will: 1) Sustain funding for state land conservation and preservation programs to support the expected 2019-2025 forecast. Maryland will continue to support the Maryland Agricultural Land Preservation Foundation, Rural Legacy Program, and Program Open Space State-side. 2) Work with state agencies and local governments to apply state and local land conservation programs as appropriate to reduce the modelled impacts to the bay of future growth, maximize bay health restoration opportunities, and mitigate the impacts of climate change to our natural and built infrastructures.	**Sustained levels of state funding for Program Open Space, Rural Legacy, and Maryland Agricultural Land Preservation Foundation.** **Continue development of decision support analyses initiated to 1) identify and characterize Targeted Resilience Areas for developing land conservation and restoration project portfolios and 2) update Maryland's Green Infrastructure Assessment with resiliency co-benefits to help inform land acquisition priorities.** **Finalize Coastal Resilience Easement pilot project to provide marsh migration opportunities for lands projected to be important for coastal wetland habitat in the future as a result of sea level rise. Pursue additional opportunities for more Coastal Resilience Easements.**	
Stormwater	**Phase I MS4 permits**	MDE	1) Issue final permit for the Phase I MS4 permits for 4 large and five medium jurisdictions. 2) Issue draft permit for Prince Georges County Phase I MS4 permit. 3) Issue draft permit for the State Highway Administration's Phase I MS4 permit 4) Additional impervious acre retrofit requirement of approximately 2 percent per permit year, in aggregate, from the dates when the permits are issued	**Large permits issued and enforced** **Medium permits issued and enforced** **Report Equivalent Impervious acreage restored**	
	Construction and Industrial SW permits	MDE	MDE will issue new general stormwater permits in 2022: 1) General permit for stormwater associated with construction activity 2) General permit for discharges associated with industrial stormwater activities	**General construction permit issued and enforced** **Industrial stormwater permit issued and enforced**	

Maryland's 2022/2023 Milestones 2.1.2022

	A-StoRM	MDE	Advancing Stormwater Resiliency in Maryland (A-StoRM) is an initiative mandated by State Bill 227 to make stormwater BMPs more resilient in the face of climate change. 1) Standardize definitions of flooding 2) Incorporate NOAA Atlas 14 precipitation estimates into Storwmater Design Manual 3) Update design standards for Environmental Site Design practices for new and redevelopment 4) Identify frequently flooded areas post 2000 5) Draft regulations to require comprehensive watershed studies, where funding exists, for flood even areas identified 6) Create a regulations review stakeholder advisory group to address future needs	**A-STORM Report** **Updates to the Stormwater Design Manual** **Map of frequently flooded areas (post 2000)** **Draft regulations for requiring comprehensive watershed studies**	
Conowingo	**Conowingo**	All agencies	Lead and champion continued Bay Program partnership progress adopting and implementing innovative best management practices, including natural filters (e.g., freshwater mussels, SAV planting /restoration, tidal wetland cration/restoration) and other innovative practices (e.g., Conowingo dredging), and conservation financing approaches through Conowingo WIP milestone development and implementation.	**Include BMP and financing innovations in the Conowingo WIP milestones and in collaboration with EPA, the Conowingo WIP Steering Committee, and the PSC. Demonstrate continued progress on model implementation and/or development for evaluating dredging as a creditable pollution reduction practice. Advance collaboration on mussel restoration throughout the entire Susquehanna River watershed.**	

Other 2022/2023 WIP Milestones

Sector	Milestone	Agency	Steps to Achieve MS Goals	Deliverable	End of MS Evaluation
Agriculture	**Traditional Cover Crop Implementation**	MDA	1) Continue to work with the agricultural community to ensure strong participation in the Maryland Cover Crop Program. 2) Continue to evaluate and refine program policies in consideration of environmental and economic factors. 3) Develop a Soil Health Program that will also help promote the benefits of cover crops in row crop production.	**470,000 acres of traditional cover crop** **Through the Healthy Soils Program, expanding acres enrolled in extended season and multi-specie cover crops.**	
	Soil Conservation and Water Quality Planning	MDA	1) Continue to work with USDA-NRCS and local Soil Conservation Districts in SCWQP development 2) Work with the Conservation Partnership to identify and address Technical Assistance gaps.	**1,000,000 acres managed under a Conservation Plan**	
	Tillage Management	MDA	1) Through the Soil Health Program, highlight the co-benefits provided by long-term utilization of tillage management practices.	**Work towards 248,000 acres of conservation tillage annually** **643,000 acres of high residue tillage annually**	
	Animal Waste Management Systems	MDA	1) Continue to work with USDA-NRCS and local Soil Conservation Districts to identify and address resource concerns in the area of animal waste management. 2) Continued funding of storage facilities through MACS and EQIP.	**Poultry - 100% AU** **Dairy - 90% AU** **Livestock - 50% AU**	
	Grass & Riparian Buffers	MDA	1) Incentivize implementation of grass buffers through enrollment in the Conservation Reserve Enhancement Program. 2) Collaborate with Conservation Partners to identify implementation opportunities in conjunction with other practices.	**Additional 4,295 acres a year, both grass and forest, newly implemented, re-enrolled or verified.** **Plan to complete future round(s) of the Conservation Buffer Initiative.**	

Maryland's 2022/2023 Milestones 2.1.2022

	Nutrient Management Core Nitrogen	MDA	1) Continue to work with the agricultural community to ensure fertilizers, manure, and other nutrient sources are applied in an effective and environmentally sound manner. 2) Continue to provide education and training regarding proper nutrient application in adherence with a nutrient management plan and all current regulations.	**70% compliance rate**	
	Pocomoke and Wicomico River Basins	MDA	Data from 2014 to 2016 showed the Pocomoke and Wicomico Rivers as having some of the highest levels of summer dissolved oxygen open water criteria exceedances in Maryland. EPA's evaluation of Maryland's Phase III WIP recommended that the state, "target implementation in the most impaired segments." Wicomico, Worcester, and Somerset counties, where the Pocomoke and Wicomico river basins are located, have collectively committed to: 1) Working within the Soil Conservation District partnership to address natural resource concerns and provide direct technical assistance, planning an additional 1,800 acres a year. 2) An additional 1,800 acres treated through agricultural drainage management practices by 2021. 3) Continuing to manage 100% of their poultry waste through animal waste management practices, as well as a 10% increase of the amount of livestock waste managed by 2021.	**Regionally** **110,000 acres managed under a conservation plan** **An additional 1,900 acres treated through Ag Drainage Management Practices** **Animal Waste Management Systems:** **Poultry - 100% AU** **Livestock - 50% AU**	
	Phosphorus Management Tool	MDA	1) Continue to fund and support the Manure Transport Program which provides financial assistance to farmers for transportation of manure to a producer or alternative use facility where it can be utilized in accordance with a Nutrient Management Plan. 2) Continue to work with Delmarva Land to Litter Collaborative and other partners, identifying solutions to the challenge of managing litter in order to achieve our water quality goals. 3) Continue to work within Soil Conservation Districts to identify and address resource concerns in the area of animal waste management as well as provide continued funding of storage facilities through MACS and EQIP, as highlighted in our Animal Waste Management System milestones.	**Manure Transport Funding Support** **Animal Waste Management System Milestones**	

Maryland's 2022/2023 Milestones 2.1.2022

	CAFO Permit	MDE	1) Prioritize the registry of the remaining 19 CAFOs that were missed in the 2017under 2019 general permit. 2) Continue the renewal of facilities under the 2014 permit into the 2019 permit.	**Registration of remaining CAFOs not under 2014 permit** **# of CAFOs under new permit**	
WASTEWATER	**Septic Upgrades to BAT**	MDE	1) Continue to use the Bay Restoration Fund to upgrade septic systems to Best Available Technology (BAT) within the Critical Area	**Fund 1800 BAT upgrades in the critical area**	
	Regulations Amendment	MDE	Amend regulations to include loading rate decreases when Best Available Technology (BAT) or Membrane Bioreactor (MBR) technology is utilized for systems that discharge <5,000 gallons per day	**Regulation Amendment**	
	Bermed Infiltration Pond Removal	MDE	1) Finalize BIP Action Plan 2) Implement plan to close BIPs and connect to Wastewater facilities	**Work on 2 priority facilities identified in the action plan**	
Natural Filters	**Expand existing tree planting programs**	DNR	1) Work in 5 counties to increase the number of contracts on residential properties in the Lawn to Woodland program. 2) Providing economic incentives through the "Marylanders Plant Trees" program which encourages citizens to plant individual trees on residential properties. 3) Incentivize tree planting and forest buffers through updated Accounting Guidance for fifth-generation MS4 permits 4) Continuing with the Healthy Forests, Healthy Waters initiative, prioritize riparian buffer plantings through decision criteria scoring	**Maintain contract numbers in Lawn to Woodland program** **Maintain number of vouchers provided in Marylanders Plant Trees program** **300 acres planted via Healthy Forests, Healthy Waters**	
	Maryland Stream ReLeaf	DNR	1) Establish partnerships to identify focus areas and complementary programs that expand forest buffers 2) Identify riparian forest buffer priority projects in the Lower Susquehanna watershed (Cecil and Harford Counties)	**2 meetings per year to coordinate the partnership** **Develop riparian forest buffer restoration and conservation strategies for the program**	

Maryland's 2022/2023 Milestones 2.1.2022

	Incorporate Conservation Plus	DNR, MDP	For the first time, land conservation activities will count toward our Bay goals. This is due to the fact that the Chesapeake Bay Program (CBP) now considers land conservation a best management practice (BMP) similar to cover crops, septic system upgrades, wetlands restoration, and oyster aquaculture. Maryland is recognized as a leader in land conservation and, in order to take advantage of this new opportunity, will: 1) sustain funding for state land conservation and preservation programs to support the expected 2019-2025 forecast. Maryland will continue to support the Maryland Agricultural Land Preservation Foundation, Rural Legacy Program, and Program Open Space State-side. 2) Work with state agencies and local governments to apply state and local land conservation programs as appropriate to reduce the modelled impacts to the bay of future growth, maximize bay health restoration opportunities, and mitigate the impacts of climate change to our natural and built infrastructures.	**Sustained levels of state funding for Program Open Space, Rural Legacy, and Maryland Agricultural Land Preservation Foundation.** **Refined targeting of Maryland's land conservation programs to address impacts from modelled future growth and climate change**	
Stormwater	**Stormwater Goals**	MDE	1) Before the Phase I permit can be issued, permittees are required to perform a "Maximum Extent Practicable" (MEP) analysis of their programs to determine the BMP implementation level that they could reasonably achieve with available and future funding levels.	**MEP analyses for MDOT-SHA**	
	Implementation of SW goals	MDE	Review all Phase I MS4 Annual Reports, any new MEP analyses, and fiscal analyses on an annual basis for ensuring MS4 permit compliance	**Review of milestones from Annual Reports** **Annual Report and FAP Review for all jurisdictions in 2021**	
	Urban Nutrient Management	MDA	1) Continue to support and expand the management of nutrient applications on urban land	**285,000 acres managed under urban NM - Commercial Applicator** **466,000 acres managed under urban NM - DIY Applicator**	

	Industrial Stormwater Compliance	MDE	1) Continue to work with industrial sites to bring unpermitted sites into compliance 2) Continue to focus on areas with requests for residual designation	**Report on number of sites brought into compliance from 2021**	
	Phase II MS4 Permit Compliance	MDE	1) MDE continues to provide extensive outreach and assistance with Phase II permittees so they understand permit conditions and obligations. 2) Currently there are a total of 89 municipal, State, and federal permittees throughout Maryland which are submitting annual reports which MDE will review. 3) Years 2 through 5 will be used to develop their BMP implementation plans to meet the third generation permit conditions.	**# of annual reports completed and reviewed by MDE** **Report BMP Implementation Progress**	

2022/2023 Milestones for WIP Support

Sector	Milestone	Agency	Steps to Achieve MS Goals	Deliverable	End of MS Evaluation
Funding	**Submit Annual Chesapeake Bay Funding (i.e., JCR) reports to MD Legislature**	All MD Agencies	Finish annual internal agency review of funding programs for sufficiency and proper targeting, while also looking to achieve important co-benefits like climate mitigation and adaptation. Identify any gaps in funding needed to achieve 2025 Bay Restoration goals.	**Submit reports to MD's Legislature by Dec. 1 of each year.**	
	Bay Restoration and Clean Water State Revolving Loan Funds	MDE	1) Continue to market the Bay Restoration Fund (BRF) and Clean Water State Revolving Fund (WQRLF) for stormwater management projects, MS4 implementation, and climate resiliency. 2) Continue to use the Integrated Project Priority System (IPPS) for the BRF and WQRLF to improve the potential for high-benefit septic projects, stormwater management projects, MS4 implementation and climate resiliency.	**Report number of projects funded through these grants** **Document the new ranking priority metrics**	
	Clean Water Commerce Act	MDE	1) Re-authorized in 2021 with $20 million dollars/year for 9 years 2) Purchases cost-effective pollution reduction credits 3) Credits may be purchased from all sectors 4) Provides incentive for private capital to perform restoration 5) Creates an additional incentive for improving Wastewater Treatment Plant performance	**Document results of practices implemented with this fund. Maximize funds to achieve cost effective reductions.**	

Maryland's 2022/2023 Milestones 2.1.2022

	Chesapeake and Atlantic Coastal Bays Trust Fund	DNR	1) Cost-Effective Non-point Source Pollution Reduction projects: a) Maintain full funding levels b) Update targeting methodology for project selection to include DEIJ, carbon and resiliency co-benefits c) Explore opportunities for increased funding through private capital d) Prioritize projects that foster healthy ecosystems, communities, and resilient economies 2) Natural Filters Program projects: a) Maintain existing funding levels to implement natural filter BMPs on state and public lands. Natural filters practices improve both water quality and habitat by protecting, enhancing and restoring riparian buffers, wetlands, streams and living shorelines.	**Report number of projects funded, and associated pounds of nutrients and sediment reduced through these grants**	
	Local Watershed Implementation Plan Funding	DNR	1) Continue to update or improve the process and ranking criteria to identify and provide funding to those local communities with the most cost effective projects for Bay restoration as needed 2) Promote program through outreach to local communities and local jurisdictions	**Sustained levels of state funding to support local watershed implementation planning**	
	MACS	MDA	Increased MACS funding to 100% for critical WIP BMPs, added a 30% COVID-related increase due to rising material costs, and looking to raise per-project cap.	**Will report the number of WIP eligible projects funded, and associated pounds of reduction, for this milestone period.**	
	319(h)	MDE	Fund 1-3 restoration projects per year in watershed plan areas within the Chesapeake Bay watershed.	**1-3 completed restoration projects**	
Modelin &	**Urban Development Growth and Land Preservation Accounting**	MDP	1) Update Chesapeake Bay Modeling tools with the State's own projections of growth in the urban sector 2) Provide technical support to ensure land use data and Chesapeake Bay land Change model forecasts are accurate 3) Explore the use of the MD Dept. of Planning's Growth Simulation Model as an alternative for CBP modeling tools to account for 2025 projected growth 4) Continue to update and maintain Maryland's land preservation datasets to inform CBP modeling tools.	**Provide Growth numbers and other documentation to CBPO**	

	Ecological Effects of Sea Level Rise	DNR	1) Coordinate with higher education and other partners to: a) Enhance models that quantify wave attenuation and the flood reduction benefits of nature-based features b) Use this information to inform conservation and restoration priorities for Maryland coastlines	**Quantify the protective services of marsh, submerged aquatic vegetation, and living shorelines under current and future sea level conditions**	
	Incorporating Air Emission Reduction Strategies	MDE	1) Continue the effort to convene an action team to help quantify additional water quality impacts of future air emissions reductions strategies 2) Revise Quality Assurance Project Plans (QAPPs) to account for air emissions reduction BMPs related to the Volkswagen Settlement.	**Investigate creation of an accounting system to track air emission BMPs**	
	Chesapeake & Atlantic Coastal Bays Trust Fund Projects	DNR	1) Strategic & Targeted Monitoring: a) Continue to monitor projects implemented through the Trust Fund for efficacy of implementation such as through site visits and review of as-builts b) Continue to conduct long-term monitoring of BMPs to assess performance and alignment with state investment goals 2)Innovative Technology Fund: a) Develop new non-point source BMPs for nitrogen, phosphorus, and sediment reduction; b) Expand partnerships with other programs that develop emerging technologies; c) Ensure new practices are reviewed by the Chesapeake Bay Partnership, or other appropriate avenues d) Establish a new consortium called BlueTechMD, a group of experts from the private, non-profit, and university sectors all interested in bringing more investors and entrepreneurs into Maryland to grow its blue economy and sustainability technology ecosystem	**Monitor Trust Fund BMPs to ensure they provide the stated benefit** **Continue investment in the Pooled Monitoring Inivative's Restoration Research Grant** **Annually fund two research and development projects** **One commercial investment**	
	Beneficial Use of Dredge Material	DNR	1) Pilot projects with application of dredge material; 2) Develop new targeting tools and partnerships; 3) Remove hurdles to implementation; 4) DNR hire a Coastal Restoration Specialist	**Facilitate the advancement of coastal resiliency projects that incorporate beneficial use as a cost saving restoration strategy.**	

Maryland's 2022/2023 Milestones 2.1.2022

Technical Assistance	**Watershed Assistance Collaborative**	DNR	1) Watershed Assistance Collaborative (WAC): a) Continue to provide dedicated staff and funding to support the program; b) Expand the program's ability to serve additional communities and improve outreach	**Fund and manage two Watershed Specialists' outreach; collaborate with three additional Specialists**	
	Technical Support through Restoration Specialists	DNR	1) 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 the latest science and techniques. 2) Advance restoration science, outcomes, and cost-efficiency within the Watershed Assistance Grant the Trust Fund local solicitation and the Natural Filters Program	**Provide continued hands-on landscape level technical assistance to local governments and non-governmental organizations implementing restoration projects**	
	BMP Calculator	DNR	1) Operate and maintain a publically available online application to estimate nutrient and sediment reductions from site level projects. 2) Integrate updates associated with Chesapeake Assessment Scenario Tool. 3) Add new BMPs as they are approved	**Operate and maintain FieldDoc.com**	
	Septic Connections	MDE, MDP	Provide technical and policy assistance to local governments to facilitate connections of septic tanks to WWTPs	**Report number of septics connected**	
	Stormwater Meetings	MDE	MDE will meet with stormwater permittees on a quarterly basis to discuss: a) WIP Expectations b) Emerging Pollutants c) Local Impairments	**Quarterly meetings at MDE with Stormwater permittees**	
	Develop local watershed plans	MDE	Our nonpoint program commits to assist with the development of local TMDL nonpoint source watershed restoration plans that contribute to Chesapeake Bay nutrient and sediment reductions.	**1-2 A-I criteria watershed plans completed**	
	TIPP Tool Maintenance	MDE	The TMDL Implementation Progress and Planning (TIPP) spreadsheet tool is meant to accompany the submission of Stormwater Wasteload Allocation (SW-WLA) Implementation Plans to MDE. It estimates load reductions at various points in the watershed planning process. This tool is used to help guide restoration and accounting efforts for meeting stormwater permit conditions.	**TIPP Tool will be updated with CAST 2021 factors**	

Developing Partnerships	**Capacity Building Initiative**	DNR	1) Establish a partnership with Chesapeake Bay Trust to launch the Capacity Building Organization-Capacity Building Initiative (CBO-CBI). This program will identify historically underengaged community-based organizations that have not previously participated in two grant programs - the Watershed Assistance Grant Program and the Resiliency Through Restoration Initiative. Interested organizations will receive the technical assistance needed to develop robust proposals to these grant programs. This initiative will enhance the state's capacity to achieve Bay restoration goals and regulatory requirements by making the collective body of organizations pursuing restoration projects more inclusive.	**Launch and administer one year of the CBO-CBI**	
	Pursue Circuit Rider in the Choptank River	MDE	As part of the nonpoint source program, work with Envision the Choptank to help provide support for a circuit rider that will assist with BMP placement, design, and grant application assistance to implement practices in underserved areas within Maryland.	**Partial support of a full time circuit rider for several years.** **Report projects completed by position**	

2022/2023 Climate Mitigation and Resiliency Milestones

	Milestone	Agency	Steps to Achieve MS Goals	Deliverable	End of MS Evaluation
Climate Change	**Addressing 2025 Climate loads**	MDE	1) Submit a narrative strategy documenting how Maryland plans to achieve the additional 1.124 million lbs of nitrogen it needs to reduce by 2025. 2) Submit CAST scenario to EPA showing that Maryland has a plan to meet WIP targets with the additional load reductions due to Climate Change.	**Climate load allocation strategy (WIP addendum)** **CAST Scenario**	
	Minimizing Risks of Climate-Driven Water Changes through Water Program Adaptation	MDE	Enhance water program permits and approvals, policies and funding programs to incorporate additional flood protection and pollution prevention considerations that reduce water-driven climate risks.	**Annual progress report. documenting accomplishments**	
	Coast Smart Construction Criteria	DNR	1) Develop and implement training program to increase competency in the use of the 2020 Coast Smart Construction Program Update. 2) Coast Smart Council and identified partners annually review the Coast Smart Construction Program criteria to ensure it meets the resiliency needs for state and local capital investment.	**1) Training program materials and annual offering 2) Assessment of criteria assessment included in the Coast Smart Annual report.**	
	Climate Mitigation and Adaptation Synergies	DNR	Work with higher education institutions and stakeholders to develop indicators of climate mitigation and resiliency progress. Use developed and existing indicators to communicate combined progress on both climate mitigation / resiliency and bay health.	**Develop and publish a suite of indicators to communicate and measure progress on climate adaptation across Maryland including those relevant to Maryland's Bay Health goals.**	

	Adaptation Framework	DNR	1) Release the Adpatation Framework (Framework) through ARWG and MCCC 2) Determine priority actions to integrate into annual ARWG workplan 3) Building off the indicators and metrics from the Adaptation Report Card, develop a tracking approach that identifies best metrics/indicators for progress tracking, lead organization or agency, and timeline for implementation of goals, strategies and activities. 4) Implement prioritized actions 5) Report on progress annually through the ARWG and assess next years priority actions. 6) Periodically review the implementation and tracking plan to identify any additional tracking metrics that need to be identified.	**Report on goal and strategy progress (using the Report Card as well as newly identified and developed indicators for progress) in the Maryland Commission on Climate Change annual report and Adaptation and Resiliency Work Group Workplans.**	
	Local Engagement and Education: Maryland Climate Leadership Academy	DNR	The Maryland Climate Leadership Academy will advance the capacity of state and local government agencies, infrastructure organizations and businesses to develop and implement sound climate change initiatives thus ensuring current and future public health, security and economic prosperity. The Academy will continue to support the work of the Maryland Climate Change Commission and State of Maryland in their efforts to address climate change and meet goals related to the mitigation of and adaptation to the effects of climate change in Maryland.	**1) Host three additional cohorts of the Certified Climate Change Professional (CCP) training program each year.** **2) Develop and implement sector specific training for local elected leaders, planners and others as identified.** **3) Launch the Online Learning Lab at the Maryland Climate Leadership Academy website**	
	Water Reuse	MDE	Continue implementing one or more water reuse pilot projects with local jurisdictions to address water supply shortages while exploring and accounting for reduced nutrient discharges to the Chesapeake Bay	**One or more pilot studies under development.**	
	Hazard Mitigation Watershed Planning	MDE	1) Continue the process of integrating hazard mitigation planning into local TMDL watershed implementation plans 2) Work with local officials to find ways to use BMPs to lower Flood Insurance rates for our citizens	**Two local watershed plans with hazard mitigation incorporated**	

	Water Quality and Climate Change Resiliency Portfolio	DNR, MDE	Work with existing stakeholders in the climate space (i.e, Maryland's Climate Change Commission and Adaptation and Resiliency Work Group) to identify a pipeline of projects that prepares Maryland and its communities to build climate resilience by taking advantage of existing and emerging funding opportunities that promote the use of natural infrastructure. Use the Resiliency Opportunity Zone (ROZ) targeting framework to inform selection of communities to develop area specific project portfolios.	**Select two communities based on the Targeted Resilience Area analysis and additional criteria evaluated by the MCCC Adaptation and Resiliency Workgroup. Procure the services of a contractor to provide technical services and stakeholder outreach to the selected communities for the purpose of developing area specific project portfolios.**	
	Living Shorelines	MDE, DNR	Work with NGO's as possible aggregators to manage prospective living shoreline projecs on private properties. Financial assistance will be provided in the form of a zero-interest loans through the Shoreline Conservation Service program.	**1) Report on number of aggregators engaged** **2) Report on number of private landowners serviced with a zero-interest loan.**	
	Living Shorelines (cont.)	MDE	1) Identify actions and develop tools to assist with improving the timeliness and consistency of state and federal regulatory decision making for living shoreline permits. 2) Complete enhanced shoreline suitability analyses of all tidal counties (13) for using LS practices. 3) Improve data capture and analysis methods to advance the LS goal and its evaluation. 4) Revise the wildlife rapid assessment tool to evaluate installed LS projects. 5) Identify ways to promote climate resilience in proposed shoreline stability designs submitted for MDE approval. 6) Integrate climate consideration into tidal licenses and approvals. 7) Develop and implement a tracking and notification system for marsh maintenance report annual submission.	**Increase the percentage of shoreline stabilization projects that use LS practices and develop ways to evaluate and improve techniques in the face of climate change.**	

	SAV Restoration and Climate Research	DNR, MDE	1) Work with TNC to determine a path forward to blue carbon crediting of SAV restoration efforts 2) Partner on the development of Technical Guidance Manual and Outreach Materials for Small-scale Submerged Aquatic Vegetation Restoration in the Chesapeake Bay and its tidal tributaries 3) Sit on the steering committee for the STAC workshop on Evaluating a Systems Approach to BMP Crediting 4) Serve as SAV Element Lead for STAC workshop on rising watershed and bay water temperatures 5) Lead the "Modeling Climate Impacts on Submerged Aquatic Vegetation (SAV) in the Chesapeake Bay" Project 6) Conduct Living Shoreline and Submerged Aquatic Vegetation Compatibility Study	**Report on number and extent of SAV restoration projects**	
	Resiliency through Restoration Initiative	DNR	1) Demonstrate how nature-based features can enhance community resilience to climate change impacts: a) Target projects which reduce climate change risk to our citizens b) Design and implement up to 15 nature-based community resiliency projects C) Provide funding, training and technical assistance that will assist practitioners. D) Monitor projects to evaluate success, MyCoast Restoration Tracker	**Complete 15 nature-based community resilience projects**	
	Advancing Blue Carbon Initiatives	DNR, MDE	1) Synthesis of current blue carbon research and policy in the state 2) link research efforts to management needs such as Margaret A Davidson Fellow methane research on restored and natural marsh systems 3) identify data inputs to begin development of Chesapeake Bay model of Wetlands to Market 4) MDE items from Dr. Lamb 5) Assess opportunities for Blue Carbon credting market (TNC pilot); 6) Blue Carbon workshops	**Host bluecarbon workshops**	
	Ocean Acidification Plan	multiple agencies	Target tidal restoration for carbon sequestration to meet both Chesapeake Bay water quality and Atlantic Ocean acidification goals	**Status on blue carbon strategies and actions including monitoring**	
	Industrial Stormwater	MDE	Finalize the update of Maryland's Industrial Stormwater General Permit to include provisions that account for anticipated impacts of climate change.	**Finalized permit with section addressing higher flows**	

Additional 2022/2023 Milestones for Maryland

Sector	Milestone	Agency	Steps to Achieve MS Goals	Deliverable	End of MS Evaluation
Protection	**Guidance for protecting Tier II Streams**	MDE	Complete 1st step of analysis through literature review and basic research to identify existing guidance documentation and processes that can support high quality/high value streams	**Summary report on the status of high quality/high value streams protection guidance** **Guidance reference compendium**	
	Maryland Healthy Watersheds Assessment	MDE	Complete the Maryland Healthy Watersheds Assessment using a $55,000 grant awarded to the Maintaining Healthy Watershed Goal Implementation Team by the Chesapeake Bay Trust. The project seeks to create a relative state watershed health baseline, on the segment-catchment scale, based on metrics known to influence watershed health, as well as identify vulnerability indicators.	**Integrate MDHWQ into MD IMAP** **Geodatabase** **Final Report** **SOPs/Protocol Documentation**	
	Combined Program Review	MDE, DNR	Pilot integration of the Antidegradation Tier II Environmental Review with the Department of Natural Resource's Power Plant Review Program. (forms, templates, and other documentation completed in the previous MS period)	**SOPs for special condition development and implementation guidance**	

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Trading	**Water Quality Trading Program Enhancement**	MDE, MDA	1) Work to include credits from agriculture into the WQ Trading Program 2) Finalize WQ Trading Registry and online marketplace. 3) Work to increase the quantity of credit buyers in the program through encouragement of participation by non-traditional partners	**1) Consolidation and update of the Chesapeake Bay Nutrient Trading Registry tool** **2) Certify credits from an agricultural source** **3) Begin development of new online marketplace**	
EJ	**Support the Bay Program's DEIJ Directive**	MDE/DNR/ MDA	Support the Bay Program partnership's DEIJ strategy and implementation plan in all Bay Program workgroups Maryland agencies lead or participate in.	**Continued attendance and participation**	
	Implement MDE's EJ policy in Compliance Programs	MDE	Prioritize EJ communities to implement enhanced compliance and pollution prevention efforts.	**Implement MDE's EJ Screening Tool to prioritize EJ communities for compliance focus.** **Identify one or more EJ pilot communities for implementation**	
	Develop and Publish DEIJ Plan	DNR	DNR commits to developing a departmental wide DEIJ plan and issuing the plan on their website.	**Complete DNRs plan and disseminate on its website so it is easy to find and navigate.**	