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Accounting for Growth	**Revise Maryland's proposal to account for growth and improve protections for high-quality waters.** ***A)*** *Quantify new loads separately from existing sector loads and allocations in the WIP narrative.* ***B)*** *Identify the land policy BMPs that Maryland is selecting to reduce future loads from growth and recommend that those supporting policies and funding streams remain in place and/or be strengthened to match the scenario assumptions.* ***C)*** *Establish an accounting for growth strategy that requires offsets from new development activity through the development approval process.* ***D)*** *Reconvene a stakeholder workgroup to develop a plan to offset these loads, either through offsets generated by nutrient reduction practices, nutrient trades, or stronger regulatory protections for natural filters.* ***E)*** *Improve Maryland's anti-degradation program to ensure that construction activity covered under a general permit does not cause or contribute to a violation of water quality standards.*	Maryland environmental policies work to significantly limit the impact of new growth on nutrient loads to the Bay. **A)** The Phase III WIP quantitatively accounts for the impacts of new growth through 2025 and provides nitrogen load projections beyond 2025. These numbers demonstrating that growth in loads occurs at a pace of less than 0.1% per year despite a significantly higher projected rate of population growth. Specifically, Figure 5 in the Phase III WIP report shows projected growth in loads past 2025. This plot assumes that implementation on the wastewater and agricultural sectors will achieve their Phase III WIP levels of implementation by 2025 and that the pace of stormwater and septic implementation described in the WIP from 2020 to 2025 will continue past 2025. Under this scenario, the nitrogen loading rate increases by just under 500,000 pounds per year from 2025 to 2040 (or an annual increase of around 30,000 pounds per year), compared with a 2025 statewide load of 45M pounds per year. A sector-specific description of growth is provided in the Accounting for Growth chapter of the document. As these are long term growth projections, they will reassessed periodically based on actual growth figures. **B)** Appendix D of the Phase III WIP report provides a summary of

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		Maryland's programs that contribute to limiting the nutrient impacts of growth, such as the Critical Area Law, the Forest Conservation Act, the Maryland Agricultural Land Preservation Foundation, to name a few. The ongoing implementation of these programs is critical toward maintaining a reduced rate of nitrogen loading increases, and their estimated impact, shown in Table 1, is about 85,000 pounds per year by 2025. State laws, such as the requirement that new development use Environmental Site Design to address stormwater, were included in the stormwater sector of the WIP, not the conservation section, so these program impacts are in excess of the 85,000 pounds. **C)** As is discussed above, Maryland's robust growth and conservation policies serve to limit the nutrient impact of new growth. Analysis done in support of this WIP demonstrates that the State is able to meet and maintain its Phase III WIP goals well past 2025 when accounting for growth. As is discussed in the document, a plan for additional reductions, such as those for climate change, will be necessary in the next several years, and the State will need to reassess the impacts of growth with respect to new loading targets. It is important to note that actions which reduce current loads, such as improved wastewater performance, can also work to mitigate the impacts of

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		growth on nitrogen loads. **D)** As part of its ongoing WIP outreach, the state has met with a varied group of stakeholders, and the topics of discussion have included the elements listed by the commenter. The high priority local input will continue, particularly through the milestone and adaptive management processes required for the WIP. Programs that can help the state to meet and maintain its current and future goals will continue to be considered. **E)** Thank you for your comment. The Department would like to clarify the meaning of "no assimilative capacity" as it relates to Tier II streams. Tier II streams are designated based on indices of biotic integrity (IBI). Tier II streams with no remaining assimilative capacity (AC) have demonstrated a diminished biological condition from the original baseline scores, after accounting for natural variability. The no AC determination indicates diminished biotic indices and therefore water quality, but does not identify the specific stressor(s) causing the diminished water quality at the Tier II stream. Please refer to the Maryland's High Quality Waters (Tier II) webpage (1) for more information. The current anti-degradation program primarily reviews individual NPDES permit

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		applications, water and sewer plan amendments, non-tidal wetlands and waterways applications, and special water appropriation applications. MDE will not process a new NOI for coverage under the general permit without approved erosion and sediment control plans. These plans are designed to protect streams from degradation associated with construction activities and maintain water quality standards. All NOIs are available for public notification and comment for fourteen days prior to approval by MDE. During this time, citizens may submit a request that MDE require the site to obtain coverage under an individual permit rather than the General Permit. It is important to note that aside from erosion and sediment control permits for State and federal agencies, the review and approval of these required plans are under the purview of counties and municipalities. The authority to manage most land use changes (i.e. planning, growth, and development) related to NOIs also falls under County, municipality, and local purview. The final Phase III WIP incorporates the Conservation Plus scenario. Information on the regulatory and policy scenarios has been clarified in Appendix D. For changes in animal populations, MD relies on USDA's Census of Agriculture. MD's 2019 milestone period will incorporate the new agriculture census.

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		Links 1. https://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/Antidegradation_Policy.aspx
Accounting for Growth	An adaptive management policy to address growth in loads post-2025 is necessary to sustain the targeted load reductions. A core tenant of the adaptive management policy, should be to maintain the WIP's current framework of focusing on implementing the most cost-effective policies and practices, crediting each sector fairly, based on the best available scientific data, and working together to find creative, market-based solutions to meet and sustain the 2025 goals of the Chesapeake Bay TMDL.	Maryland has a variety of policies in place to focus resources on a cost-effective, market-based solutions, such as its Water Quality Trading Program, the Clean Water Commerce Act and prioritization metrics for the Bay Restoration Fund and the Chesapeake and Atlantic Coastal Bays Trust Fund. These programs are critical for finding cost-effective options meeting the State's 2025 WIP targets. With that said, it is also important to recognize all of the non-nutrient benefits that result from certain practices, which, while not the lowest-cost option from a nitrogen or phosphorus removal perspective, could be critical to meeting other state goals such as climate resiliency or drinking water protection.
Accounting for Growth	Page 37. #4. Sentence is not clear.	Added clarification.

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Accounting for Growth	Page 31 contains the incorrect statement "900-acres of new impervious surfaces created annually as a result of new development. This results in an approximately 2 percent reduction in stormwater loads of nitrogen by 2025 (Figure 7)." This is incorrect because increases in urban impervious surfaces will cause nitrogen loads to increase. Nitrogen loads will decrease by 2% because stormwater sector nitrogen reductions from urban stormwater restoration are expected to outpace the increase in stormwater sector nitrogen load caused by new development adding impervious surfaces and transferring land from the ag and natural sectors into the stormwater sector.	This was an error and has been corrected to state that it will result in a 2% increase in nitrogen loads by 2025.
Accounting for Growth	Hold developers responsible for additional loads due to growth. Local jurisdictions have been responsible for reduction of loads resulting from previous development. Going forward, developers should be responsible to account for the growth in loads from their activity. The State should complete the effort it started with stakeholders to develop and adopt Aligning for Growth regulations and an accompanying manual. Another option would be to charge a fee-in-lieu or require restoration for the percentage inefficiency of the stormwater practices installed.	Maryland's goal is to have a balanced Accounting for Growth (AfG) approach that is succinct, cost-effective and easy to explain. While progress was made with the 2013 AfG workgroup and the State has established nutrient trading regulations to address trading geographies; a formal AfG program might not be needed since additional loads through 2025 from development are included in the current Bay Model, assigned to each State, and have been addressed in Maryland's Phase III WIP.

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Accounting for Growth	Page 23. Maryland developed Priority Funding Areas to encourage urban growth in places that minimize loss of agricultural lands. Discussion of land use planning should discuss DSP growth management guidelines.	The Chesapeake Bay Land Change (CBLC) Model provides a baseline called "current zoning" that is used to predict land use patterns in 2025. The "current zoning" is based on where development can happen but did not address state and local existing land preservation programs or resource-protective development requirements. With the development of the Land Policy BMPs and the Regulatory and Policy Scenarios, the model now depicts projected growth that reflects the current and existing programs - including the Priority Funding Areas, which supports Maryland's Compact Development Goals. By directing development to areas identified for growth (e.g. through local and state land use restrictions and/or requirements) and reflecting land conservation programs, the modeled land use patterns resulted in less additional nutrient and sediment loads. The process for developing the Land Policy BMPs is included in Appendix D.
Accounting for Growth	How will Maryland effectively and equitably address pollution increases associated with growth while offsetting new development to the wastewater and agriculture sector?	Maryland's Phase III WIP is built on a projected 2025 land use, demonstrating that the State is able to account for growth through that timeframe. In addition, Figure 5 shows that the State should be able to maintain levels below its nitrogen target load through 2045. Part of the reason that the State is able to do this is its programs to mitigate the impact of new development, including stormwater, Environmental Site Design, and

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		land conservation programs such as the Forest Conservation Act. In addition, the continued high levels of performance achieved by Maryland's wastewater treatment plants, serve to minimize the increases in wastewater loads due to population growth. Through its milestone and adaptive management processes, the State will continue to assess whether these programs are sufficient for keeping Maryland under its nutrient targets.
Agriculture	The WIP says "at the same time Maryland has pollution sources that do not currently have regulatory clean up requirements, such as small communities with no Bay restoration requirements for pre-law stormwater discharges (non-MS4s), that play an important role in helping achieve Bay restoration targets and where financial incentives are critical to drive restoration progress." This sentence should also refer to small scale agricultural farms that have no regulatory clean up requirements (since success primarily depends on private landowners). We ask that you improve technical assistance to local partners, such as the forming of a technical assistance workgroup to address these challenges.	Based on overwhelming stakeholder interest coming out of the local engagement process, State agencies are looking into ways to support locally-driven implementation. Two broad needs expressed during the regional meetings were additional funding and additional technical staff to assist in planning and grant applications, particularly in rural counties. In 2018, MDE partnered with the Chesapeake Bay Foundation, the National Fish and Wildlife Foundation and six jurisdictions on the Eastern Shore to fund a circuit rider to provide local technical support. MDE is assessing the effectiveness of this program as well as looking at other models for technical assistance. In addition, MDE has engaged with local governments and watershed groups to determine how to ensure that worthwhile projects are funded. State agencies will use the adaptive management and milestone processes to address the perceived gap.

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Agriculture	**There are four primary recommendations for the agricultural sector:** • Fully implement the Phosphorus Management Tool (PMT); • Continue and expand funding for agricultural programs and projects and increase BMP implementation; • Provide technical assistance and funding to rural jurisdictions, including county governments and Soil Conservation Districts (SCDs); and • Continue to act upon recommendations made during listening sessions.	Thank you. These recommendations are consistent with those provided by stakeholders during local WIP planning meetings and will be incorporated into our implementation plan.
Agriculture	Many local government agencies and SCDs acknowledged the need for additional technical assistance. Technical assistance in rural areas is needed to identify and prioritize projects. Accordingly, "Maryland is already forming a workgroup to improve technical assistance delivery to local partners, as well as working with those partners to develop a strategic implementation plan for addressing challenges". Maryland should provide details regarding the responsibility of this workgroup and how nongovernmental organizations or local citizens may engage.	MD state agency staff are forming teams to facilitate WIP implementation. Teams will address funding, barriers to implementation such as technical assistance delivery, Bay Agreement goals, climate change, conservation/protection/growth, and progress/milestones. Maryland will be continuing its WIP outreach through 2025. For example, in its biannual milestones, state agencies will need to work with local practitioners. Maryland has already met with local practitioners and other stakeholders to identify sound approaches to support local implementation. Non-governmental organizations and local citizens interested in engaging in this process should contact MDE's Integrated Water Planning Program.
Agriculture	Maryland must ensure that existing Soil Conservation and Water Quality Plans are fully implemented and functioning as	MDA concurs with this comment as the development and implementation of Soil Conservation and Water Quality

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	designed, including continued efforts to verify BMP performance.	Plans is the backbone of agricultural conservation to address resource concerns.
Agriculture	There are several discrepancies regarding the WIP and MDE's spreadsheet calculations. The WIP claims that 100,000 tons of manure transport will occur annually in 2025. Yet MDE's spreadsheet only shows 65,537 tons in 2025. The state must clarify these discrepancies, including any predicted shortfall.	MDA has reviewed tables B-2 and B-3 and has discovered an error in aggregating the statewide goals. Revised B-2 and B-3 tables have been incorporated into the final WIP III consistent with goals developed during the local agriculture planning meetings.
Agriculture	The draft Phase III Watershed Implementation Plan sets a goal for nutrient management timing at 10% of acres. We believe this to be vastly underestimating the enhanced nutrient management timing practices, such as split Nitrogen applications, that are already occurring. Based on our partnership's on the ground knowledge of nutrient management practices, we would suggest the following goals: **NM Placement:** 40% ac/yr **NM Rate N/P:** 40%/20% ac/yr **NM Timing:** 50% ac/yr	Thank you for your suggestion of increasing the enhanced nutrient management practice goals. We agree that these practices are being implemented throughout the state and welcome your support in better quantifying the extent to which they are being applied. As more information becomes available, we will be able to adjust our goals accordingly.
Agriculture	**Cost Share Funding Critical to BMP Implementation** Maryland farmers are suffering from low commodity prices and extreme market volatility. With a depressed farm economy, many will struggle to afford the additional cost of implementing new BMPs. State and federal cost share funding will be critical for agriculture to make necessary changes. Maryland Farm Bureau encourages the administration to appropriate sufficient funding to ensure additional BMPs can be implemented. Increase Cost-Share for BMPs on Rented Farmland	MDA is currently evaluating the MACS Program to ensure it aligns with the WIPIII. In addition MDA is exploring opportunities to increase the adoption rate of conservation on rented farmland.

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	Allow Cost-Shared Agricultural BMPs to Earn Nutrient Trading Credits.	
Agriculture	Require That a Portion of Traded Agricultural Nutrient Credits Benefit the Agricultural Sector. Under nutrient trading, if agricultural credits are generated on individual farms, they can be sold to other sectors that are not meeting their water quality goals. This can occur even though the agricultural sector overall has not yet met its goals. This effectively would mean that agriculture would be trading away its own nutrient reductions before meeting its own goal. We believe a more equitable solution would be to develop a system in which other sectors who purchase whole credits from agriculture, would realize some percentage of the credit (perhaps 25%), while the agricultural sector maintains the balance of the credit (in this example, 75%) to be applied towards meeting the agricultural sector goal.	Under nutrient trading it is true that an individual farm, or group of farms, can indeed trade to other sectors if they have met the baseline conditions on their properties required by regulation. The baseline conditions would be the practices needed for each property to have achieved its goals for restoration/protection needed for this effort and that any practices done above and beyond are voluntary and should be eligible for trading. Additionally, the way we account for WIP implementation and Water Quality Trading are different and currently there is no comprehensive method for estimating WQ Trading effects in the Chesapeake Bay Model. So all Agricultural practices still count for that sector in our WIP analyses. The State will keep these considerations in mind as the Trading Program matures.

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Agriculture	**Acknowledge the Benefit of the Agricultural Reserve and other Preserved Farmland.** The Bay model currently does not have a method for evaluating preserved farms for water quality benefits. It should be recognized that farms preserved by agricultural preservation easements have at least two benefits: *1) they will not contribute to future stormwater loading because they will never be developed to their fullest extent under zoning; in fact, the lack of impervious surfaces on preserved farms can act as a landscape level filter for adjacent municipalities, and* *2) they are required to maintain current soil conservation and water quality plans with MSCD. These current and long-term benefits of both the Agricultural Reserve and preserved farms statewide are not reflected in the Chesapeake Bay Model and must receive credit in the future.*	The Chesapeake Bay Land Change (CBLC) Model provides Maryland with an excellent opportunity to incorporate expected growth impacts into the Bay TMDL and to get credit for local and state land preservation efforts and resource-protective development requirements. The CBLC provides a baseline called "Current Zoning" that is used to predict land use patterns in 2025. The "Current Zoning" is based on where development can happen but did not address the land preservation programs or resource-protective development requirements. With the development of the Land Policy BMPs and the Regulatory and Policy Scenarios, the model now depicts projected growth that reflects the land preservation programs. By directing development to areas identified for growth (e.g. through local and state land use restrictions and/or requirements) and reflecting land conservation programs, the modeled land use patterns resulted in less nutrient and sediment loads. The process for developing the Land Policy BMPs is included in Appendix D. Farms in MALPF and other preservation programs are not set-asides, but are required to be working agricultural and forest lands.
Agriculture	While we applaud all efforts to achieve aggressive load reductions in agricultural pollution, it seems unrealistic that that the aggressive county planning goals for agricultural source reductions will be achieved given the pace of load reductions thus far. More information is needed to	As indicated in Appendix B, MDA facilitated a series of locally led meetings with agricultural stakeholders in each of the counties in Maryland. The intent of the meeting was to review and revise existing commitments that

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	indicate how counties plan to achieve these goals.	were realistic and achievable. MDA will continue to provide input and recommendations regarding the implementation of these practices toward 2025 goals.
Agriculture	It is imperative before anything new is asked of agriculture that all existing conservation practices, whether through cost-share or voluntarily implemented, are accounted for. DPI strongly encourages state agencies to review what reporting is already occurring on farm to utilize data more efficiently. Farmers are required to complete Annual Implementation Reports as they relate to Nutrient Management. It is important to ensure the right questions are being asked, the data is being shared between agencies and the data is being completely analyzed and used for the Model.	MDA also recognizes the importance of fully documenting existing conservation practices. We are examining how to better utilize current data sources, such as the AIR, and welcome your support in better quantifying the extent to which BMPs are being implemented.
Agriculture	DPI strongly encourages Maryland to ensure that technical assistance is available for the agricultural community. Farmers may have all the cost-share funds they need to implement a best management practice, but without the knowledgeable people to assist, the likelihood of increased implementation is low. Maryland must provide long-term stability of technical assistance positions – not just grant-based jobs.	MD state agency staff are forming teams to facilitate WIP implementation. Teams will address funding, barriers to implementation such as technical assistance delivery, Bay Agreement goals, climate change, conservation/protection/growth, and progress/milestones.
Agriculture	It is important to include specific discussion of current staff levels or number of increases in technical assistance staffing needed between now and 2025.	MD state agency staff are forming teams to facilitate WIP implementation. Teams will address funding, barriers to implementation such as technical assistance delivery, Bay Agreement goals, climate change, conservation/protection/growth, and progress/milestones.

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Agriculture	Appendix B p.6 Table 2: Some of the change in BMPs from 2017 to 2025 seem unrealistic. Can poultry litter treatment go from 0 to 75%; ag. storm water for poultry goes from 0 to 65%; Dairy precision feed mngt. go from 0 to 90%; Non-urban stream restoration almost double to 135,600 lin. ft.? Nutrient management requirements have been in place for a number of years. By 2025 the nutrient management compliance should be much greater than 70%.	While it may appear that some of the practices have a current level of implementation of 0%, MDA recognizes that many of these practices are being implemented but simply under-reported. Based on feedback during the local agriculture stakeholder meetings, realistic and achievable goals were established for all practices, including those that are currently not being reported.
Agriculture	Appendix B Page 12. line 2: "the remaining gap will continually be addressed." is ambiguous and meaningless.	MDA is currently evaluating the MACS Program to ensure it aligns with the WIPIII. In addition, MDA is exploring opportunities to increase the adoption rate of conservation on rented farmland.
Agriculture	Appendix B Page 12 Paragraph 2 should be made clear that the MACS Program enforcement may have to increase. Additional staff and education should help increase voluntary compliance.	MDA is currently evaluating the MACS Program to ensure it aligns with the WIPIII. In addition, MDA is exploring opportunities to increase the adoption rate of conservation on rented farmland.
Agriculture	Appendix B Page 13. Need more detail: What is the number of farms and acres in the Ag. Certainty Program? What is the expected number in 2025? How long is the certainty period?	Currently two agricultural operations participate in the Maryland Agricultural Certainty Program. As indicated in the narrative, MDA is currently evaluating regulations and policies to further enhance the program. Please visit MDA's website for more details concerning the program: https://mda.maryland.gov/resource_conservation/Pages/agricultural_certainty_program.aspx
Agriculture	Appendix B Page 14. Need to mention the timing for gearing up or number of additional staff to be added. There is a need for more technical staff to aid farmers.	MD state agency staff are forming teams to facilitate WIP implementation. Teams will address funding, barriers to implementation such as technical assistance delivery, Bay Agreement goals, climate change,

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		conservation/protection/growth, and progress/milestones.
Agriculture	Moreover, the WIP double counts some load reductions. For example, the WIP assigns agricultural load reductions of 87,500 pounds of nitrogen per year, and 1,500 pounds of phosphorus per year, to BMP verification. But BMP verification is a quality control measure which ensures that assumed load reductions are occurring. As stated in the WIP, verification ensures that BMPs "are working properly and can continue to be counted towards BAT restoration credit." BMP verification does not generate independent load reductions and must be removed as a source of reductions.	The WIP is not double-counting by anticipating nutrient reductions due to verification of existing BMPs. These practices are ones that are on the ground, but had stopped being credited in the Chesapeake Bay accountability framework by 2017 due to lack of verification. By verifying that they are in place and functioning properly, the state should be able to receive credit for these practices and use them toward its 2025 WIP goals.
Agriculture	Better incentives for the Agricultural Sector *Agricultural BMPs (according to page 20 of the main report) are the most cost effective compared to septic and stormwater. This section does not expand on the incentives that will be utilized in order to promote the increased implementation of agricultural BMPs in Maryland. This is an area of expansion in subsequent iterations of this Plan.*	MDA is currently evaluating the suite of incentive programs offered by the State and is committed to aligning and streamlining these programs to deliver the most cost-effective solutions to mitigate non-point source pollution to local waterways and the Chesapeake Bay.
Agriculture	Outreach to the horse community is recommended to address the range of measures needed for a clean Chesapeake Bay.	MDA continues to engage the equine industry through direct outreach via Soil Conservation Districts, participation in field days and farm tours, and presentations during equine specific training. MDA's Office of Resource Conservation also coordinates the Horse Outreach Workgroup (HOW) to provide information to

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		horse owners on pasture and manure management issues. Specific information can be found on the HOW website: https://mda.maryland.gov/resource_conservation/Pages/horse_pasture_manure_info.aspx
Agriculture	Increase BMP implementation targets for agricultural forest buffers to 2,200 acres and for land conversion to pasture by a total of at least 5,000 acres.	MDA recognizes the critical role of riparian buffers in addressing water quality. Feedback during the local agriculture stakeholder meetings suggest that increased flexibility in program policy may be necessary to overcome the barrier of additional implementation. MDA is exploring various options that may offer the flexibility farmers and landowners seek in participating in those programs.
Agriculture	The level of complexity of our BMP designs and the paperwork, follow up and documentation for state and federal permits and programs increases each year. We need simplification of these processes not added complexity each year.	MDA is currently evaluating the suite of incentive programs offered by the State and is committed to aligning and streamlining these programs to deliver the most cost-effective solutions to mitigate non-point source pollution to local waterways and the Chesapeake Bay.
Agriculture	Having participated in the Western Maryland session, we are pleased to learn that credit will be given to jurisdictions which advance or continue land preservation programs, which presumably alter growth projections in certain areas of the Bay shed. Will details of how this credit will work as it applies to rural land which could result in home construction if not preserved as Ag land?	The Chesapeake Bay Land Change (CBLC) model incorporates expected growth impacts into the Bay TMDL and provides the opportunity to get credit for local and state land preservation efforts and resource-protective development requirements. With the development of the Land Policy BMPs and the Regulatory and Policy scenarios (Conservation Plus policies), the model directs development to areas identified

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		for growth (e.g. through local and state land use restrictions and/or requirements) and reflecting land conservation programs. The modeled land use patterns resulted in less nutrient and sediment loads and have been incorporated in the final Phase III WIP; collectively the Conservation Plus policies are expected to lower Maryland's 2025 nitrogen and phosphorus loads by 86,000 pounds per year and 6,000 pounds per year respectively. The process for developing the Land Policy BMPs is included in Appendix D.
Agriculture	How will the state support the agricultural sector in delivering the increased effort needed to meet the WIP targets?	MDA is currently evaluating the suite of incentive programs offered by the State and is committed to aligning and streamlining these programs to deliver the most cost-effective solutions to mitigate non-point source pollution to local waterways and the Chesapeake Bay.
Agriculture	Page 31. What is the projected loss of farmland through 2025? A poorly managed farm can be more polluting than a well maintained residential development with proper BMPs and good design.	The CBP projects the loss of agricultural land utilizing trends from the Census of Agriculture. The projections are currently being revised as a result of the 2017 Ag Census.
Agriculture	Appendix B, Page 11. Are there fines or penalties for farms being out of compliance and exceeding pollution levels?	Yes, fines may be imposed on farms that are not in compliance with current Nutrient Management regulations. Compliance is not related to pollution levels, however. Most non-compliance issue are related to an out of date plan.

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Climate Change	There is carbon sequestration potential in 1) a variety of agricultural practices that increase soil health and 2) forestation and forest management. Carbon sequestration would help Maryland achieve another important goal: the reduction of greenhouse gasses as required by the GGRA. MDA's Healthy Soils Consortium is composed of a large group of stakeholders that are committed to implementing agricultural practices that both sequester carbon and increase crop yield for the state's farmers. Many practices—some already in use by many Maryland farmers--have significant sequestration potential. I am not suggesting a re-allocation that would put at risk Maryland's nutrient reduction goals. Instead, I suggest shifting a portion of the funding allocated for some practices that are least cost-effective for nitrogen reduction (e.g., some of the wastewater strategies) to other strategies (including several of the agriculture and natural lands practices) that are both more cost-effective at nitrogen reduction and have major carbon sequestration benefits.	Maryland agencies are in the process of reviewing their regulatory framework and incentives to ensure that they promote not only nutrient removal, but also achieve important co-benefits for things like climate change. Planting trees and managing forests, as noted by the commenter, can provide significant benefits for both water quality and carbon sequestration.
Climate Change	1. Better definition of climate change/resilience strategies *Specifically, we would like to see more detail in this plan regarding:* i. increased frequency and intensity of storm events ii. population growth and increased development iii. any other areas that increase stormwater runoff	The Climate Change section of the WIP describes strategies for addressing climate change. On changes in storm frequency and intensity, for example, the State is working with the CBP Partnership to better understand the effects of climate change. Simultaneously, the State is pursuing strategies for improving stormwater management infrastructure and dams, such as through an emergency dam repair fund and a revolving loan dam fund. For new development, the State continues to require Environmental Site Design to ensure that runoff from

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		new development is addressed to the maximum extent practicable.
Climate Change	It also does not address the risks that communities near the Bay will face as the climate continues to change and the waters rise. The plan should also ensure that land developers offset new pollution from their projects and build respecting the science knowledge that the waters will be rising.	Maryland has a variety of programs and policies in place to address climate change. State agencies are actively working to anticipate and address risks through groups like Maryland's Coast Smart Council, which looks at the siting and design of state capital projects, the Maryland Commission on Climate Change which includes a workgroup focused on Adaptation and Resiliency. Work being done along the coast is regulated in many ways, such as by the Critical Area Commission and MDE's Tidal Wetlands program.
Climate Change	Maryland must include similar language and adjustments in its WIP and adjust its planning targets downward (or adjust the planned load reductions gap upward) to account for the additional load attributable to climate change. Either approach would have the same practical effect. The correct targets for Maryland should be: Nitrogen target = 43.59 million pounds Phosphorus target = 3.566 million pounds	The commenter is correct that addressing the impact from climate change will require reductions beyond the Phase III WIP targets. In the Climate Change section of its Phase III WIP, Maryland discusses the preliminary modeling estimates for additional load reductions attributable to climate change and establishes a schedule for incorporating them into the WIP after they are finalized.

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Conowingo	Request that Maryland remove extraneous and inaccurate discussions of Exelon and its Conowingo Project from the final version of its Phase III Watershed Implementation Plan. Maryland's final Phase III WIP should eliminate the references to Exelon, the Certification, the Conowingo Project, and any assertions of Exelon's obligations. Maryland should clarify that it has never been assigned the CWIP loads, so it cannot somehow "reassign" those same loads to Exelon through the Certification.	The Phase III WIP report provides a brief update on the status of the Conowingo WIP (CWIP) in order to distinguish between efforts to meet Maryland Phase III WIP reduction targets and those to meet Conowingo WIP reduction targets. The statements in the WIP are neither inaccurate nor extraneous.
Conowingo	Sediment is blocking/pressing up on the Conowingo dam- should be dredged and the sediment should be reused to block up mines, quarries, and other fillable pollution sources	Agreed. Maryland is undertaking a Sediment Characterization and Innovative Reuse and Beneficial Use pilot project to provide better information on the quality of sediments behind the dam, dredging costs, dredged material reuse options, scaling, and feasibility as a solution for addressing Conowingo's impacts. This project will help Maryland determine whether dredging and reuse of Conowingo Dam sediments is a viable solution to help address pollution impacts to Chesapeake Bay. More information can be found on MDE"s web site at https://mde.maryland.gov/programs/Marylander/Pages/conowingo_pilot.aspx
Enforcement	Include a strategy to increase inspection and enforcement activities and resources.	Inspection and enforcement are important elements throughout the WIP. The Agriculture WIP Strategy includes items for "BMP Verification," which includes practice inspections, and "Enforcing Regulatory Compliance," which applies to the State's nutrient management program. For stormwater

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		practices, inspections must be conducted every three years, and for wastewater discharges, compliance is measured through monthly discharge monitoring reports.
Enforcement	The Plan focuses on cooperation and friendly compliance efforts. Fines and penalties are needed as a tool, but there is no mention of specific sanctions or penalties when polluters do not comply with state regulations.	Corrective actions and formal enforcement actions are issued as part of the compliance process and are based on specific permit violations. The WIP report is a broad plan and does not typically provide detail at a site-specific level. MDE's Compliance Program webpage (https://mde.maryland.gov/programs/Water/Compliance/Pages/index.aspx) provides links to resources, such as the Enforcement and Compliance History Online (ECHO) database, for learning about specific facility violations.
Enforcement	MDE should identify that it will have adequate staff to monitor and supervise local government programs properly.	MDE monitors all of its programs to make sure staffing is commensurate with needs. When needs are identified, MDE prioritizes them and works with leadership to acquire appropriate resources, whether they be human resources or capital needs.
Enforcement	It is of utmost importance that all source sectors are held to their specific load allocation targets. The enforcement of issued permits is key to a successful credit trading program and for the longevity of the Chesapeake Bay. Without the proper enforcement of these permits, a market-based approach to nutrient reduction will not succeed, resulting in loss of business and reduced water quality in the Chesapeake Bay.	Compliance and enforcement is a critical element of ensuring that Maryland's Phase III WIP is successful.

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EPA Agricultural Enhancements	Maryland should accelerate nitrogen reductions in the agricultural sector to provide greater confidence to the CBP partnership that sustained funding, increased technical capacity, and BMP implementation will be realized. Examples include: A) Development, enhancement and implementation of the following initiatives: partnering with NGOs on voluntary conservation, market-based approaches, pay for performance approaches, public-private partnerships, and improving regulatory compliance. B) New strategies, legislative programs, incentive programs, compliance programs, and/or funding mechanisms to support how Maryland will achieve, by 2025, implementation rates of those BMPs that are much higher than current rates, such as livestock waste management systems, grass buffers, nutrient application management core nitrogen and phosphorus, forest buffers, and conversation tillage. C) New strategies, legislative programs, incentive programs, compliance programs, and/or funding mechanisms for those practices that Maryland is reporting for the first time (e.g., capture and reuse and dairy precision feeding) to better understand how implementation goals will be achieved by 2025.	As was described in the response to the first general comment, Maryland is committed to ensuring that the agricultural practices described in the Phase III WIP are put in place by 2025. The state will consider a full range of funding mechanisms and other approaches to ensure that local practitioners have the resources they need for both practices that the state is looking to accelerate, and practices that the state has not yet started reporting. This includes, partnering with NGOs on voluntary conservation, market-based approaches such as Water Quality Trading, pay for performance approaches, public-private partnerships, and improving regulatory compliance.

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EPA Agricultural Enhancements	Maryland has identified several agricultural BMPs as priorities for implementation. Maryland should provide more detail on how it is targeting funding toward implementing these priority agricultural conservation practices in priority nutrient loading areas, and whether there is adequate funding to fully implement the agricultural conservation practices called for in the draft Phase III WIP. For example, Maryland estimates a need of $54.2 million per year to achieve the agricultural commitments. It is unclear what portion of funding listed in Table 12 of the draft Phase III WIP would go to agriculture and if it would fully fund the need of $54.2 million per year.	MDA is currently evaluating existing cost-share programs to ensure policies and procedures align with WIP III goals for agriculture. This not only includes the type of practices eligible for cost-share assistance but payment rates and incentives as well. In addition, MDA is considering enhancements to existing riparian buffer programs and developing a drainage management program to support WIP III.
EPA Agricultural Enhancements	Maryland should provide clarification on whether any agricultural implementation is tied to its Agriculture Certainty Program, since adoption and growth of that program has been challenging.	While the Agricultural Certainty Program was developed to reward agricultural operations for meeting TMDL commitments by providing safe harbor from future regulatory impacts, program enrollment has been a struggle. MDA is currently re-evaluating the program and is working with the Maryland Association of Soil Conservation Districts to explore a joint environmental stewardship recognition program that could foster the adoption of additional agricultural conservation.
EPA Federal Facilities Enhancements	Maryland should continue to evaluate the content of DoD and other federal agency programmatic and numeric commitments and include this information in the final Phase III WIP.	Maryland administers a variety of NPDES permits to federal dischargers, and through these permits restoration work is being done to support the Phase III WIP. This includes wastewater treatment plant upgrades and stormwater restoration plans. Requirements in these permits have been included in the State's WIP. The State will review the work being done to ensure

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		compliance with the permit, and therefore, consistency with the States Phase III WIP.
EPA Federal Facilities Enhancements	Maryland should add federal agencies under "Target Audiences," on page 25 of the draft Phase III WIP document, especially in the context of Phase I and II MS4 permit coordination.	Maryland will add "federal agencies" to the text as a target audience.
EPA General Enhancements	Maryland should accelerate nitrogen reductions in the agricultural sector to provide greater confidence to the CBP partnership that sustained funding, increased technical capacity, and BMP implementation will be realized. An example includes new strategies, legislative programs, incentive programs, compliance programs, and/or funding mechanisms to support how Maryland will achieve, by 2025, implementation rates of those BMPs that are much higher than current rates.	Maryland laid out an ambitious plan to achieve significant nitrogen reductions from the agricultural sector by 2025, and the State's ability to meet its 2025 goals hinges on these reductions being achieved. Through its adaptive management process, and the biannual milestones, Maryland will refine its plan and describe and programs that need to be created or modified in order to support these efforts.
EPA General Enhancements	Maryland should provide additional information on how implementation in the stormwater sector will increase over time to meet its pollutant load reduction goals. This is consistent with Maryland's recognition that accelerated reductions in the wastewater and agriculture sectors, currently being used to account for the load reduction gap in this sector, will be difficult to sustain post-2025.	Maryland will be finalizing its Phase I permits for large MS4s in the upcoming year as well as receiving restoration plans from jurisdictions covered by Phase II MS4 permits. Specific implementation information derived from those documents will provide further detail about specific additional stormwater sector implementation to be achieved by 2025.
EPA Growth Enhancements	Maryland should provide further detail on its planned implementation of an adaptive growth policy to revisit sector-loading trends and offsets to remain under the Phase III WIP planning targets.	Maryland's Phase III WIP strategy demonstrates that the State can achieve its Phase III WIP targets and stay under the cap until 2045. This is done by continuing implementation in the stormwater and septic sectors beyond 2025. As part of its commitment to

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		develop a plan to address climate change goals, the State will need to revisit its growth analysis.
EPA Local Engagement Enhancements	Maryland should provide additional information (e.g., programmatic commitments) on how BMP strategies under each of the county-level plans were developed and planned to be implemented. For example, some plans emphasize a single BMP (e.g., stream restoration), while others have multiple BMPs.	Projects required under the current Phase I MS4 permits were based off of the Financial Assurance Plans. These plans described specific types of BMPs that MS4s are using to meet their permit requirements. Projects for the upcoming fifth-generation permit were based off of a default stormwater treatment practice (1"ST) and the estimated MEP level of implementation.
EPA Local Engagement Enhancements	Maryland should provide more information on proposed strategies to address cited local capacity needs and resource challenges (e.g., BMP maintenance, verification, funding, programs, and accounting) by local partners.	Maryland is working on developing approaches for supporting local partners by addressing capacity and resource needs. Further detail on these efforts will be provided through the adaptive management and milestone processes, however, the State is already taking steps to provide support. In 2018, MDE partnered with the Chesapeake Bay Foundation, the National Fish and Wildlife Foundation, and six jurisdictions on the Eastern Shore to fund a circuit rider to provide local technical support. MDE is assessing the effectiveness of this program as well as looking at other models for technical assistance. In addition, MDE has engaged with local governments and watershed groups to determine how to ensure that worthwhile projects are funded.

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EPA Local Planning Goals Enhancements	Maryland should further clarify its key local partners responsible for implementing the BMPs reflected in the county-level plans.	Local Planning Goals can include a collection of implementers. For a given large county, this can include the Phase I County MS4, the State Highway Administration's Phase I MS4, Phase II MS4s industrial stormwater permittees and permitted construction activities. Maryland's local partners with responsibility for implementing BMPs are described in further detail through the relevant NPDES permits and associated documents.
EPA Local Planning Goals Enhancements	Maryland should define the specific tool and process to be used to track and report achievement of local planning goals through the two-year milestones and annual progress submissions.	As part of its milestone process, Maryland is planning to work with its local partners and EPA to define an appropriate process to track and report progress of local planning goals.
EPA Other Enhancements	Maryland is reporting cropland irrigation for the first time. However, the Cropland Irrigation BMP Expert Panel report concluded that nutrient reduction benefits cannot be ascertained at this point in time without further long-term research. As a result, Maryland should exercise caution in relying on this practice for attaining its Phase III WIP goals since there is no confirmation that it will result in nutrient reduction crediting for the present time.	The State recognizes the uncertainty in crediting nutrient reduction benefits for the Cropland Irrigation BMP. The State has produced a WIP that achieves reductions beyond its current WIP target with the understanding that some specific reductions may not be achieved by 2025. Through its adaptive management and milestone processes, Maryland will continue to look for additional opportunities for reductions.
EPA Other Enhancements	Regarding plans to conduct an inventory of data for BMPs that have already been implemented, it is important that future reporting of this data include accurate implementation and inspection dates, following the CBP partnership's verification protocols. Much of the historic implementation of practices and programs has already been accounted for in the calibration of the CBP partnership's Phase	The State agrees with this comment. It is important to note that the vast majority of reductions under Maryland's Phase III WIP will come from new practices, rather than old practices that have been installed but inadequately maintained. With that said, since money has already been spent to install these

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	6 suite of modeling tools through the changes in loads and water quality at monitored locations.	practices, it is important for the State to continue to improve its inventory of these existing practices and to ensure that they are being maintained correctly.
EPA Other Enhancements	Jurisdictions agreed to follow CBP partnership-approved BMP verification protocols when developing and implementing the Phase III WIPs. Because Maryland is proposing to increase BMP implementation rates of some BMPs by 10-fold or more in the next seven years, the State should ensure that implementation at this higher rate can be tracked, verified, and reported within that period. Maryland should also evaluate whether the CBP partnership-approved verification protocols should be adjusted to accommodate this increased implementation.	This is an important point. Maryland is putting forth substantial efforts to ensure that its implementation is tracked, verified and reported correctly. The State will continue working with the CBP partnership to improve the verification protocols where necessary.
EPA Other Enhancements	Maryland should consider changing acres of "Wetland Enhancement" to "Wetland Rehabilitation." The current CBP partnership Wetland BMP Expert Panel expects to recommend elimination of "Wetland Enhancement" as a water quality BMP. Both practices will remain for the next two-year milestone period, but Maryland should not rely on the Wetland Enhancement BMP as part of its implementation scenario.	Maryland has 7.5 acres of wetland enhancement and rehabilitation in its Phase III WIP. The State will update its plan based on the outcome of the BMP Panel.
EPA Segment-shed Goals for the Tidal Jurisdictions Enhancements	Maryland could target implementation in the most impaired segments. For example, the Pocomoke Tidal Fresh is by far the most out of attainment of water quality standards, but only 15% nitrogen reductions are planned. This segment-shed influences not only the Pocomoke Tidal Fresh tidal segment, but also downstream tidal segments, such as the impaired Pocomoke Oligohaline.	Excluding the Patapsco Mesohaline (Baltimore Harbor) and Back River Oligohaline Chesapeake Bay Tidal Segments—where wastewater treatment plant upgrades are expected to drive reductions of millions pounds of nitrogen—the average Chesapeake Bay Segment is expected to see a 9-percent reduction under the Phase III WIP (from 2017). The Pocomoke Tidal Fresh Bay Segment, anticipates a

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		nitrogen reduction of 15 percent under the WIP, two-thirds higher than the average. This reduction represents a significant level-of-effort in this watershed, and Maryland will continue to assess water quality in the tidal Pocomoke River to determine whether additional implementation is required.
EPA Segment-shed Goals for the Tidal Jurisdictions Enhancements	Maryland could explore more opportunities in other sectors beyond wastewater for potential nitrogen reductions in the targeted segment-sheds.	Maryland's Phase III WIP anticipates a statewide nitrogen reduction to the bay of over 15 percent from its 2017 load to 2025. In addition to the work being done in Maryland, the efforts of upstream states should be substantial as well. The State anticipates that a significant water quality response will occur during that period giving watershed a better concept of where localized exceedances are most persistent. Focusing on wastewater performance is one mechanism for driving localized nutrient reductions, but the State will continue to consider other approaches, such as targeted funding for specific geographies, for addressing segments that remain out of exceedance beyond 2025.

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EPA Stormwater Enhancements	Maryland should provide further information (e.g., new strategies, legislative programs, incentive programs, compliance programs, funding mechanisms, etc.) on how it will achieve, by 2025, implementation rates of those BMPs that are much higher than current rates, such as stormwater treatment performance standard, extended dry ponds, infiltration practices, erosion and sediment control, and street sweeping.	Most stormwater practices included in the 2025 Phase III WIP were based off of documents related to the MS4 Permits. For example, the remaining implementation under the current Phase I MS4 permits is described in county Financial Assurance Plans (1). Implementation of practices required under future permits was input into CAST as stormwater treatment performance standard BMPs. Additional detail relating to the specific practices used to meet requirements in future permits will be submitted to MDE as part of the permit process. Link: https://mde.maryland.gov/programs/water/StormwaterManagementProgram/Pages/WPRPFinancialAssurancePlans.aspx
EPA Stormwater Enhancements	Maryland should provide additional information on how implementation in the stormwater sector will increase over time to meet its pollutant load reduction goals. This is consistent with Maryland's recognition that accelerated reductions in the wastewater and agriculture sectors, currently being used to account for the load reduction gap in this sector, will be difficult to sustain post-2025.	Additional information about increased stormwater implementation will be provided in future MS4 permits and planning document derived from those permits. Future Phase II MS4 permits and sixth-generation Phase I MS4 permits will be issued near the end of the Phase III WIP period and will describe implementation beyond 2025.
EPA Stormwater Enhancements	Maryland asserts that regulatory tools are backed by effective compliance and enforcement programs that can implement legal backstops to ensure restoration progress. Maryland should provide additional information on how these regulatory tools will be used in the future to ensure compliance.	The Department intends to enforce all MS4 permits where restoration requirements fall short. For example, the Department entered into a Consent Decree with Montgomery County when it fell short of restoration requirements, instituting a $300,000 penalty

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		and/or a supplemental environmental project. The Department intends to use this enforcement model moving forward.
EPA Stormwater Enhancements	Maryland should develop a timeline for when Maryland's Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance document will be completed, since this document is currently being updated.	The updated Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated guidance document will be completed as part of the Phase I MS4 permit development process.
EPA Stormwater Enhancements	Maryland should provide more detail on how the Phase II MS4 permittees will achieve the 20% restoration requirement, given that this is the first permit cycle with this requirement included.	Per the Phase II MS4 permit, permittees will be submitting Impervious Area Restoration Work Plans to the department with their first year MS4 Progress Reports. These will describe how they intend to achieve their 2025 restoration goal.
EPA Stormwater Enhancements	Maryland should provide additional information (e.g., voluntary programs, funding, technical assistance, etc.) for those BMPs to be implemented on 400 acres of non-regulated urban lands to increase confidence that this goal will be achieved.	Stormwater projects in non-MS4 counties are currently being funded through the state's Bay Restoration Fund and its Chesapeake and Atlantic Coastal Bays Trust Fund. Through the process of implementing the Phase III WIP, Maryland state agencies will be working with non-MS4 jurisdictions to evaluate implementation rates and identify opportunities to increase implementation. Further detail on these efforts will be provided through the adaptive management and milestone processes
EPA Stormwater Enhancements	Maryland should provide additional detail on a strategy for enhancing technical assistance delivery in both regulated and non-regulated stormwater. While each county conducted a feasibility analysis to outline implementation that they feel can be achieved by 2025, not much detail was	Maryland partnered with the National Fish and Wildlife Foundation, the Chesapeake Bay Foundation and six Eastern Shore jurisdictions to hire a circuit rider to assist in accelerating local implementation. The State will be

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	provided as to how this analysis was conducted or how specific BMPs were selected.	assessing the effectiveness of this approach, as well as looking at mechanisms for facilitating implementation, to see where additional resources are warranted. This process will be done iteratively throughout the Phase III WIP period to identify and build off of local successes.
EPA Support	EPA's review of Maryland's draft Phase III WIP found many areas in which the State exceled in addressing the expectations.	Thank you.
EPA Wastewater Enhancements	The draft Phase III WIP narrative document describes how wastewater will account for the majority of the nitrogen reductions to meet the Phase III WIP planning targets by 2025. However, Maryland's implementation scenario shows that the agriculture sector accounts for most of the nitrogen reductions, followed by wastewater. Maryland should resolve this discrepancy in the final Phase III WIP.	It is unclear what is meant by this comment. Table 4 of the Phase III WIP shows a 4.7-million-pound reduction from the Wastewater sector and a 4.4-million-pound reduction from the Agricultural sector. This analysis is based on a 2017 baseline. As wastewater loads are highly variable from year to year and their reductions are frontloaded in the WIP period, the selection of a different baseline (say, 2018 or 2019) year could impact the results of this calculation. Suffice it to say, the reductions from the Wastewater and Agricultural sectors are substantial.
EPA Wastewater Enhancements	Maryland should further explain whether there are sufficient state resources to administer the MS4 trading program.	Maryland currently has sufficient state resources to administer its Water Quality Trading Program. Depending on future participation, the state may, at some point, need additional resources.

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EPA Wastewater Enhancements	Maryland should provide further detail on whether there are tools (e.g., online market place with applications and registration processes) to support the MS4s if trading occurs.	MDE maintains an online registry, market board and other trading tools through its Water Quality Trading Program webpage (1). The State is working on updates to the Maryland Nutrient Trading Tool (2), and when these are complete, the registry and marketplace will be migrated to this location. **Links** 1. https://mde.maryland.gov/programs/Water/WQT/Pages/index.aspx 2. http://www.mdnutrienttrading.com/
Figures and Tables	The state should clarify if the amounts listed in Column "Lbs. TN Reduced" are the amounts reduced thus far, the amounts needed to be reduced to meet the WIP targets, or something else. The state should clarify how the figures in Column "Annual Costs" are derived.	The final Phase III WIP document was updated to provide further clarification.
Figures and Tables	On page B-1, the state should include acreage totals for Water Quality Plans, riparian buffers, and cover crops and should include a percentage of total, as well as a goal, if available	Acre totals for these practices is included in paragraphs 2 & 3 on page B-1. Additionally, goals for these are listed in Tables B-2 & B-3. While there is approximately 1.3 million acres of cropland in the State, it is difficult to establish a percent of total for some. For instance, the area available for cover crop implementation may vary annually based on crop rotations and weather patterns. In addition, MDA has been working with DNR and CBPO to accurately quantify the amount of land available for riparian forest buffers.

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Figures and Tables	In Table B-2, for approximately half of the BMP categories, the 2025 goal is less than the 2017 progress. Maryland should explain why (perhaps the BMPs already surpassed the goal, for example);	Table B-1 contains BMPs that are implemented on an annual basis. While 2017 progress may indicate a certain level of implementation, projected shifts in agriculture production and conservative estimated based on weather uncertainty have led to small decreases in some practices in 2025. For example, an increase in organic grain production could reduce the acres managed under conservation or high residue tillage. Likewise, successful cover crop implementation is highly dependent on environmental factors, such as weather. As a result, cover crop goals are based on an average condition derived from long-term trends.
Figures and Tables	In Table B-3, roadside ditches in rural areas often receive runoff from agricultural ditches. Talbot County has taken a leadership role in placing BMPs in roadside ditches and demonstrated the value of these practices. The state should promote these practices and provide financial assistance to local governments and agricultural producers to achieve significant nutrient and sediment reductions.	Maryland DNR helped to support Talbot County develop and implement its ditch retrofit program. DNR provided funding support to Cecil County to apply Talbot's approach to several of ditches, but unfortunately the project was not successful due to several factors that differ between the two counties, including topography. Both of these projects were funded through the Chesapeake and Atlantic Coastal Bays Trust Fund competitive solicitation, as they can be cost efficient and effective at attaining water quality benefits.

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Figures and Tables	Appendix F Page 3. Table F2. Explain what -11% mean for Patuxent Tidal Fresh. Will 15% reduction in N fully correct 85% summer DO exceedance?	The table indicates that the nitrogen load to this segment is 11% higher in the Phase III WIP scenario than it is in the 2017 CAST Progress scenario. The text on the next page describes this calculation in further detail: For the Patuxent Tidal Fresh segment, there are nine wastewater treatment plants, which discharged about 55 million gallons per day of wastewater in 2017. All of these have already been upgraded to ENR treatment, and their average concentration in 2017 was below two milligrams per liter, leaving little potential for additional reductions. Because the Phase III WIP projects future concentrations of 3.25 milligrams per liter at all of its significant municipal treatment plants, the WIP anticipates a load increase here, however if current discharge concentrations are maintained, the loads will be reduced by around five percent.

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Figures and Tables	Add information to County Goal Summaries to provide a complete picture for each county. County Goal Summaries only provide the amount of nitrogen that needs to be reduced. These pages should include the amount of phosphorus to be reduced. The tables should also show the 2017 load for each and the 2025 target load that we are trying to achieve. They should also show the projected loads from growth for each county, as well as the amount of reduction resulting from the Conservation scenario and how those were derived. If loads and estimated reductions have been projected beyond 2025, those numbers should be added as well to give counties a local timeline estimate for load trends. Please note that the resolution on the County Goal Summaries pages is very poor, making it very difficult to read.	The County WIP Goals Summaries provide a broad overview of work that will be done in each county, by 2025, by a variety of entities such as stormwater permitees, wastewater treatment plant managers and Soil Conservation Districts. Specific detail about practices is provided through other documents, such as NPDES permits and county restoration plans.
Funding and Resources	Adjust the MACS program to support increased implementation targets for natural filters. *Set a benchmark to spend 50% of MACS funds on permanent practices over the course of the Phase III WIP.* *Install a CREP set-aside and provide an initial $2M to address the current funding deficit.* *Stop applying the soil loss equation to grazing and stream access control practices and offer the Federal EQUIP flat rate of $325/acre.* *Prioritize MACS awards to farms that are in full compliance with nutrient management regulations and animal exclusion rules.*	MDA is currently evaluating the MACS Program to ensure it aligns with the WIP III. In addition, MDA is exploring opportunities to increase the adoption rate of conservation on rented farmland.

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Funding and Resources	As BMP implementation accelerates in agricultural areas, more Soil Conservation Districts employees need the appropriate Job Approval Authority (JAA) to approve engineering designs for agricultural BMPs. More employees with the appropriate JAA will prevent an administrative bottleneck that will likely slow agricultural BMPs rate of implementation and the associated pollution reductions.	MD state agency staff are forming teams to facilitate WIP implementation. Teams will address funding, barriers to implementation such as technical assistance delivery, Bay Agreement goals, climate change, conservation/protection/growth, and progress/milestones.
Funding and Resources	Maryland must explain how the WIP builds on lessons learned over the past ten years, including both successes and failures, and explain how the WIP represents a course correction. Moreover, Maryland must also add plans for how it will adequately fund its agencies, conservation districts, and farmers themselves to accelerate this load reduction.	Maryland has established aggressive, but feasible goals for nutrient reductions by 2025. Lessons learned from earlier WIP phases have been parlayed into a realistic strategy. While most funding for the WIP is in place, due to the ambitious nature of this plan, additional funds or adjustments to funding may be required to meet certain goals. The State will address any discovered funding gaps through the adaptive management and milestone processes.
Funding and Resources	Once upgrades to the 67 major wastewater treatment plants are completed, BRF funds could be used to drive reductions in other sectors. The Clean Water Commerce Act could provide a blueprint for using those funds. We recommend evaluating the inclusion of BMPs used in agricultural sector, including restoration of buffers, streams, floodplains and wetlands.	Thank you for your comment. The Clean Water Commerce Act has been a driver of low-cost innovative projects and we will assess its effectiveness as an implementation tool. It should be noted that apart from the CWCA, the BRF Wastewater Fund is already used to support stormwater, wastewater, and septic sector projects, and that project ranking includes cost-effectiveness. With the significant WWTP upgrades funded, there could be additional funding for the other sectors.

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Funding and Resources	Maryland should remove or clarify its references to the 2015 EFC report. *The report assumes that the "current level of regulation will be maintained within each of the four pollution sectors and that enforcement will be consistent and effective." Since 2015, the level of regulatory protections in two sectors – stormwater and septic – have decreased.* *Because state regulations declined, and local funding requirements decreased, the state may need new state-based fees or taxes to reach 2025.*	In its "Financial Assurance and Creating a Restoration Economy" section, the Phase III WIP report summarizes the conclusions and caveats of the 2015 Environmental Finance Center (EFC) study. That section further states that, "[a] cursory analysis of 2019 restoration funding relative to costs suggests Maryland has sufficient fiscal capacity to assure Chesapeake Bay's Water Quality Standards will be met," and that, "[a] thorough financial analysis is recommended in the near term to confirm Maryland's fiscal capacity to achieve 2025 TMDL targets." The WIP does not use the 2015 EFC report to conclude that current funding is definitively sufficient. References in the WIP to the 2015 EFC report appear to characterize its findings correctly.

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Funding and Resources	Better definition of funding/financial resources: *The WIP makes note of many funding sources/grant programs/mitigation funds that "could be investigated", "could be explored", "could be considered". This language does not directly specify where the implementation funding will be coming from. The revised WIP should more concretely enumerate where the how the implementation funding will be secured.* *The WIP mentions several times that Maryland is committed to building the capacity within government agencies, businesses, and other partners to advance restoration work, yet does not mention how this capacity building work* *The WIP provides some annual implementation costs by sector to achieve targets; these numbers seem somewhat undervalued (WIP p.20). This pricing does not seem to indicate any accounting for landowner engagement, analysis, design, or permitting costs associated with these projects. This is an area of clarification in subsequent iterations of this plan.*	In order to meet its Phase III WIP nutrient loading targets, Maryland needed to lay out an ambitious, yet realistic plan. The plan requires the state to conceive new programs, which still need to be In its "Financial Assurance and Creating a Restoration Economy" section, the Phase III WIP report states that, "[a] thorough financial analysis is recommended in the near term to confirm Maryland's fiscal capacity to achieve 2025 TMDL targets." Through the adaptive management and milestone processes, Maryland will work to build the additional capacity to develop additional funding sources necessary for full WIP implementation.
Funding and Resources	The Phase III WIP for agriculture cannot be achieved with current staffing and resources at the SCD level. The current level of implementation is 923,896 acres per year and the WIP III sets a goal of 1,022,256 acres per year. These additional ~ 100,000 acres could require as many as 30 additional planners to achieve. Maryland's SCDs are committed to achieving the Phase III WIP goals but cannot do so without adequate staffing and resources. MASCD encourages the Department of Agriculture and administration to carefully consider and	MD state agency staff are forming teams to facilitate WIP implementation. Teams will address funding, barriers to implementation such as technical assistance delivery, Bay Agreement goals, climate change, conservation/protection/growth, and progress/milestones.

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	provide the necessary resources to help the districts and agriculture meet these goals. Additional soil conservation technicians are needed. The current model of hiring short term grant-funded employees has not worked well for us. The amount of turnover in these positions puts at a great disadvantage because our current trained staff is constantly providing training to our new hires, who most often leave our employment for a permanent or better-paying position elsewhere just as they become productive. *Make the opportunity available to provide multi-year funding through 2025 so we may offer some measure of job security for our grant funded employees. Having each year individually subject to approval does not foster the longevity of employment needed to train and mentor new staff.* *Allow flexibility in our grant awards to hire part-time employees who could work on a production schedule for BMP designs and preparation of SCWQP's. This would allow each SCD to evaluate if they have an opportunity to enlist the services of experienced individuals who may not wish to work a full-time job, after their retirement, as an example. This approach would also reduce overall costs.* *Need to review pay scales - DSCD* *Need additional engineers* *Do webinars for training to limit travel costs*	

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Funding and Resources	How will Maryland increase technical and financial assistance to local governments, farmers and other implementers?	Maryland is investigating opportunities to provide additional technical assistance to practitioners in rural communities. MDE is currently partnering with NFWF, CBF and several jurisdictions on the Eastern Shore to fund a circuit rider, and this model and others are being reviewed to assess their feasibility and scalability. As this analysis is still ongoing, a final set of recommendations has not been developed yet. Further information on this process will be provided through the WIP adaptive management process.
Funding and Resources	Create a separate scoring system for state funding where stormwater projects are compared only to other stormwater projects, or designate a portion of the BRF and the Trust Fund exclusively for state and local stormwater restoration activities.	The State is looking at ways to ensure adequate funding for stormwater projects. This suggestion is noted.
Funding and Resources	The state should use a portion of BRF funding for stormwater projects so they aren't competing with wastewater projects.	Thanks for your comment. The State is looking for mechanisms to ensure that adequate resources are available for stormwater implementation in rural counties.
General Clarification and Corrections	Please make sure all acronyms are spelled out the first time they are used.	The final Phase III WIP document was updated to provide further clarification.
General Clarification and Corrections	Appendix F Page. 4. There should be greater discussion of the role of storm water and septic pollution sectors for the Patuxent and Anacostia segments.	The Anacostia and Patuxent Tidal Fresh segments are wholly situated in MS4 jurisdictions. This means that restoration requirements in the current and upcoming MS4 permits will apply to these watersheds. Furthermore, as the stormwater strategy states, it is anticipated that restoration requirements will be a component of stormwater discharge permits well past 2025,

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		so the anticipated reductions from this table represent a snapshot of 2025, not a final watershed goal.
General Clarification and Corrections	Page 12: The Phase III WIP does not recognize Department of Defense (DoD) and other federal facilities as local partners. Revise the section and include DoD and other federal facilities as part of this local community.	Federal agencies are major property owners in Maryland, and are vital partners in the implementation process. State and federal agencies have worked closely together in the Chesapeake Bay Program Federal Facility Workgroup and in the Water Quality Goal Implementation Team. Any perceived omission of their contribution was not intentional on the part of the WIP development team. Their load reduction contributions can be seen in the Phase II MS4 permit for State and Federal MS4s, and through the upgrades to federally-owned wastewater treatment plants. The sentence has been amended to include federal agencies such as DoD.
General Clarification and Corrections	Page E-18: The section references Virginia installations. Delete Virginia and add in Maryland.	This was corrected in the Final Phase III WIP document.
General Clarification and Corrections	In the county summary, it appears that Cecil County is incorrectly referred to as a Phase I Municipal Separate Storm Sewer System (MS4) Jurisdiction. The summary should be adjusted to reflect that Cecil County is a Phase II MS4 Jurisdiction. It also appears that Cecil County's strategies were identified in the county's MS4 Financial Assurance Plan. Cecil County was not required to create or submit a FAP. The reference to an additional 10% treatment goal should be removed.	The final Phase III WIP document was updated to provide further clarification.

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General Clarification and Corrections	Page 44: Efficiency is a vague term and it will be difficult for MDE to determine that a BMP has lost efficiency. Clarify how MDE is defining “efficiency." Clarify whether simply constructing more BMPs is the only alternative for anticipated loss of BMP pollution reduction efficiency.	In this section, the term efficiency refers to the percent of nitrogen, phosphorus and sediment in runoff that will be treated or removed by a given practice. BMP efficiencies are estimated by the Chesapeake Bay Program Partnership using the best available science, modeling and data, and can be revised from time to time through the Expert Panel process. If shifts in BMP efficiency are observed due to climatic changes, there are many different approaches that could be taken to account for this beyond just installing more BMPs. For example, existing BMPs could be retrofit to handle adjusted volumetric requirement.
General Clarification and Corrections	Provide more detail in the draft WIP for the implementation and accounting of key operational practices. <u>O&M reductions for wastewater</u> *Describe how Bay Restoration Fund Operation & Maintenance grants will be leveraged to drive further improvements in WWTP performance and demonstrate whether this funding is sufficient to drive the performance improvements anticipated in the WIP.* <u>Agricultural BMP verification</u> *Identify which agricultural BMPs have been adjusted for verification and explain why so many BMPs that the state believes are still functioning were removed from the model.* <u>Water Quality Trading</u>	<u>O&M reductions for wastewater</u> O&M grants are provided to ENR facilities that discharge effluent at or below 3.0 mg/L of total nitrogen, and as is described in the Bay Restoration Fund Annual Report, the minimum grant is $30,000 for plants with a design capacity at or below 1 million gallons per day (MGD) and the maximum grant is $300,000 for plants with a design capacity at or above 10 MGD. Water Quality Trading and the Clean Water Commerce Act are available for plants that operate below 3.0 mg/L. Of the two largest wastewater treatment plants in Maryland, Back River WWTP finished its upgrade in 2017 and Patapsco WWTP is scheduled to finish in early 2020. The State will continue to monitor aggregate

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	Assess the nutrient credits expected to be available for trading after operational improvements at wastewater treatment plants obligated for direct wastewater sector reductions are subtracted. Compare these credits to the projected need from MS4 jurisdictions and new growth.	statewide performance and investigate whether changes to the performance framework are necessary. Agricultural BMP Verification Per Chesapeake Bay Partnership and in accordance with EPA progress reporting beginning in 2018, all jurisdictions were required to develop and implement a BMP verification program consistent with partnership established protocols. The intent was to ensure proper accounting of all conservation measures on the landscape and to clean up historic data. As a result, BMP lifespans were instituted that essentially limit "credit" duration for accounting purposes. Jurisdictions have the opportunity to extend this credit duration through a re-verification process. More detail regarding this can be found on the CBP website: https://www.chesapeakebay.net/what/programs/bmp_introduction_to_bmp_verification/bmp_verification_principles Maryland has a strong history of conservation adoption through the Maryland Agricultural Water Quality Cost-Share (MACS) Program and many of these practices are now subject to re-verification under EPA's protocol. Over 35,000 practices have or will lose "credit" by 2025. As a result, MDA developed a verification team to re-verify these expired

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		practices. Since the Fall of 2016, approximately 12,000 practices have been reviewed by the team. Of those, ~70% are still on the landscape and functioning as originally intended. Realizing that only 1/3 of the expired BMPs have been re-verified to this point, MDA simply applied a 70% re-verification adjustment to expired BMPs for WIP III planning. As a result, Riparian Forest Buffers, Grassed Buffers and Wetland Restoration have been adjusted in the WIP plan to reflect this re-verification credit. <u>Water Quality Trading</u> Maryland did not assign a specific reduction to water quality trading in the Phase III WIP, as the trading program is not seen as a driver of load reductions. Refer to response 92.
General Clarification and Corrections	There are some illogical statements made in the stormwater sector. For example, "current projections to 2025 estimate 900 acres of new impervious surfaces created annually as a result of new development. This results in approximately 2 percent reduction in stormwater loads by 2025." The WIP needs to clarify how additional impervious surfaces reduce stormwater loads. The WIP should acknowledge both legacy impervious surface areas and growing impervious surface areas.	This was an error and has been corrected.

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General Support	CBF appreciates and supports the inclusion of numeric goals for developing oyster aquaculture in the Bay. The WIP should identify strategies to accelerate aquaculture development consistent with the increased rate establishing new or expanded operations proposed in the draft.	Thank you.
General Support	We applaud Maryland for utilizing county-wide goals, tracking local implementation progress with two-year milestones, and evaluating annual progress at the local level; the State adopted our recommendations and incorporated measurable planning goals below the major-basin scale.	Thank you.
General Support	The WIP states that “challenges in the stormwater and septic sector, such as numerous distributed systems over large areas, many private property interests, longer implementation horizons, and required engineering plans and approvals, to name a few, limit restoration pace in these sectors." We are pleased to hear that Maryland is already forming a technical assistance workgroup to address these challenges; we have been supportive of efforts to improve technical assistance to local partners.	Thank you.
General Support	Maryland should be commended for the progress made in the agricultural sector, particularly for holding multiple listening sessions with the MDA, for providing financial support, and for reductions achieved under the TMDL thus far.	Thank you.

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General Support	It is not feasible to pursue sewer in less dense areas, and creating sewer to low density developments creates the competing pressure of impervious surface, another increasing source of pollution. Focusing on problematic areas, like mobile home parks, is a sound policy for the state and these areas need to be targeted.	Thank you.
General Support	The DE-MD 4R Alliance is supportive of MDA's efforts to make the WIP III an inclusive process that is locally informed. We are very confident that increasing the WIP III goals for 4R BMPS of rate, timing, and placement will more accurately represent the current and future adoption of these advanced practices and more accurately align the state's nutrient reduction goals for agriculture with the realities on the ground.	Thank you.
General Support	The MBIA is encouraged to see that Maryland is on track to meet the pollution reduction targets set by the Chesapeake Bay TMDL beyond the year 2025. The Phase III WIP illustrates that each sector is unique, and based on numerous factors, including quantity of pollutant loads available for reduction, the availability of cost effective BMP's, and opportunities available to incentivize reductions, certain sectors have the ability to contribute large reductions at a faster pace than other sectors. As a result, the implementation of cost effective technologies and BMPs in the wastewater and agricultural sectors have put the state on track exceed the requirements of the 2010 Chesapeake Bay TMDL.	Thank you.

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General Support	The MBIA supports parity of nutrient reductions between different sectors. The implementation of cost-effective BMPs, technologies and market based incentives that produce the greatest impact for the least amount of cost will eventually achieve greater parity between all sectors when you look at the costs of implementing wastewater and agricultural BMP's in relation to their current loads compared to the costs of BMP's in sectors with lower pollutant loads.	Thank you.
General Support	The MBIA supports developing synergies between sectors through market based incentives. One example is the State of Maryland's trading program that realizes the cost-effectiveness of implementing cheaper BMPs to offset expensive retrofits in MS4 jurisdictions. Doing so benefits all Marylanders by providing additional income opportunity to the agricultural sector while providing an opportunity for MS4 jurisdictions to comply with their TMDL goals, reducing costs at the local level; effectively reducing the cost to taxpayers. The MBIA appreciates the recognition that any excess capacity at WWTPs should not be used to generate credits, since this excess capacity is needed for future growth as projected in 10-year water and sewer master plans.	Thank you.
General Support	The MBIA supports the Draft Phase III WIP's four- pronged strategy to account for growth that shows the State of Maryland will meet the goals of the Chesapeake Bay TMDL beyond 2025. Building future growth into nutrient reduction targets and crediting nutrient reductions achieved through Land Use Policy BMP's and State Resource Protection Programs begins to acknowledge new growths contributions to the reduction of pollution to the Chesapeake Bay over the last several	Thank you.

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	decades, before the Chesapeake Bay TMDL.	
General Support	We applaud the State and the Governor's budget for including $1.2B of investment into the Bay in FY19. Consistent and dedicated funding streams are critical to the success we have achieved to date. Continuing to optimize and refine investments that target the largest-scale impact projects will drive future reductions and allow the State to meet its implementation goals. Dedicated funding allows partners to plan for large projects, leverage other funding sources, and foster the restoration economy.	Thank you.
General Support	As an active partner for restoration in Maryland, we wholeheartedly agree with the inclusion of increased local and private participation to achieve these goals. Last year the Conservancy partnered with the State of Maryland, local landowners, federal agencies and other organizations to restore six miles of the Pocomoke River's flood plain. Projects like this are critical to meet our clean water goals in 2025 and beyond.	Thank you.
General Support	We fully support a broad array of agricultural best management practices (BMPs) to meet the diversity of farming operations across Maryland. To be successful, we need a combination of in-field (e.g., nutrient management and no-till), edge-of-field (e.g., grass waterways, buffers, wetlands) and downstream (e.g., floodplain reconnection) practices across the landscape.	Thank you.

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General Support	We commend the addition of aquaculture in the WIP, and recommend adding another important and scalable natural filter to the WIP: native oyster reef restoration. The completed Harris Creek restoration will remove 1 million pounds of nitrogen over the course of the next 10 years at a cost of $30/lb. This cost-effective and proven method to reduce excess nitrogen offers the State an opportunity to help achieve clean water goals while meeting its Chesapeake Bay commitment to restore oysters to five Maryland tributaries.	Thank you.
General Support	We support the BMPs and strategies outlined in Maryland's WIP to achieve reductions in the stormwater sector.	Thank you.
General Support	We commend the State on the wastewater treatment upgrades through the Bay Restoration Fund (BRF). These investments have successfully reduced significant amounts of nitrogen and have done so while accommodating growth.	Thank you.
General Support	First, BOE deeply appreciates the State's strong support for utilizing market-based approaches such as nutrient trading as a key component of the WIP III. Nutrient trading, often also called water quality trading, is a proven and effective approach to reducing pollution and achieving water quality improvements at lower costs. We commend the State and Hogan Administration for establishing a well-designed and promising regulatory framework for nutrient trading last year. The program itself will offer a viable and legitimate market-based solution to reducing nutrient pollution to the Chesapeake Bay.	Thank you.
General Support	We are excited to see oyster aquaculture included in Maryland's WIP III as a core pollution reduction practice, accounting for 10,000 lbs. of TN and 1,000 lbs. of TP	Thank you.

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	of expected reductions by growing 350,000 bushels by 2025	
General Support	We commend Maryland for including in the draft WIP (1) numeric county-level planning targets and sector specific, quantitative numeric targets and (2) conservation components for Forest and Agricultural Preservation.	Thank you.
General Support	MAMSA is pleased that the Draft Phase III WIP expresses the Maryland Department of the Environment's (MDE's) intention to apply the CWA maximum extent practicable (MEP) standard to the next generation of permits for permits for large and medium MS4s.	Thank you.
General Support	MAMSA generally supports the approach taken towards climate change in the Draft Phase III WIP.	Thank you.
General Support	MAMWA supports the State's decision to review climate science and research before deciding whether/how to include revised numeric reduction goals and BMP efficiencies in either a WIP addendum or two-year milestones.	Thank you.
General Support	MAMSA appreciates the statements in the Draft Phase III WIP that acknowledge the State's commitment to nutrient trading.	Thank you.
General Support	MAMWA appreciates the statements in the Draft Phase III WIP that acknowledge the State's commitment to nutrient trading.	Thank you.
General Support	MAMWA supports the State's decision to honor the commitments previously made in the cap load strategy with respect to enhanced nutrient removal (ENR) upgrades. The State is correct to acknowledge the massive public investment in these facilities by keeping the existing strategy in place through the 2025 target date.	Thank you.

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General Support	We commend Maryland for recognizing in its Draft Phase III WIP the significant progress already made to reduce loadings of nitrogen, phosphorus and sediment from Maryland sources. We are pleased to see highlighted the recognition that agriculture, along with the wastewater sector, are driving the success for Maryland to meet the 2025 goals.	Thank you.
General Support	DPI applauds Maryland's efforts to continue to fund research for alternative uses for chicken litter.	Thank you.
General Support	Overall, the WIP is well organized, comprehensive, coherent, and readable. Maryland is doing a very good job of meeting the TMDL and 2025 goals.	Thank you.
General Support	Baltimore County is pleased with Maryland's approach to developing the Phase III WIP. The draft WIP presents a practical approach to completing the challenging task of meeting the Chesapeake Bay TMDL allocations assigned to Maryland by the 2025 deadline.	Thank you.
General Support	Generally, the plan document appears to be very positive and the information presented is relatively easy to follow.	Thank you.
General Support	We appreciate the obvious effort that State agencies have made to be more collaborative during the Phase III planning process. We find it appropriate that the approach for this phase did not simply mandate onerous burdens on counties, but worked with various local government stakeholders to define goals that consider the practicalities and resources available locally.	Thank you.
General Support	We appreciate that the State is treating sewer overflows seriously and look forward to regular updates and an on-time completion of the goals set out in Appendix B of the Phase III WIP.	Thank you.

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General Support	We applaud the State for its holistic approach to addressing pollution impacts attributable to Conowingo Dam and the commitment to hold the Dam's owner, Exelon, accountable for the threat its operations pose to the fragile recovery of SAV and other aquatic life in the Upper Bay.	Thank you.
General Support	We embrace an all-of-the-above strategy to improving and maintaining the health of the Chesapeake Bay, with concerted attention on the largest point sources of pollution loading to the Maryland portion of the Bay and priority given to the most cost-effective endeavors.	Thank you.
General Support	The County is pleased to hear that MDE realizes restoration practices must not only be cost effective and achievable, but also provide benefits to local communities and address local challenges like flooding.	Thank you.
General Support	Cecil County applauds MDE for acknowledging that "restoration success" will require full commitment from upstream states and expects that MDE will continue to work with state and federal agencies to ensure that upstream states are held accountable for their role in improving the health of the Chesapeake Bay.	Thank you.
General Support	WIPs have set ambitious goals for the agricultural sector, where water quality gains can be great. COG supports state and federal cost-share programs for the agricultural sector to ensure these load reductions are achievable and to keep agricultural land in production.	Thank you.
General Support	Frederick County commends MDE for adding the Maximum Extent Practicable process to its NPDES MS4 permit negotiations on the next round of permits. MEP is the standard for NPDES MS4 permits as described in the Clean Water Act and Code of Federal Regulations.	Thank you.

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Local Sector Goals	We recommend that the state update the WIP document to identify how it will track and report local sector progress. One way to do this would be to ask counties to update the WIP Phase II County Plans to indicate how they intend to achieve Phase III local planning goals and to make these plans public.	Tracking implementation is a critical part of the accountability framework, as we need to the ability to confidently measure progress toward our State Bay goals, and hold other jurisdictions accountable for theirs. Since the establishment of the 2010 Chesapeake Bay TMDL, Maryland has implemented a robust tracking and verification framework to be able to report year-to-year progress on nutrient reductions. The framework takes data from stormwater dischargers, Soil Conservation Districts, municipal and industrial wastewater dischargers, combined sewer systems, and state funding programs, to name a few, and compiles the information into one comprehensive, statewide data set. This is reported to the Chesapeake Bay Program through the State's annual reporting into the CAST model. Progress is also tracked in other important ways, such as through regular reporting requirements in stormwater discharge permits.
Local Sector Goals	Where can the public see the county-level plans prior to the publication of the final WIP?	County-level information is available in the "Local Sector Goals" (Appendix C) section of the Draft Phase III WIP. There will not be separate county-level plans.
Modeling Output and Numbers	CBF has concerns that the CAST input deck overestimates impervious acres treated when compared to what is described in the Draft WIP narrative. Further, CBF has concerns that modeling assumptions over estimate nutrient reductions.	State agencies have reviewed specific comments about alignment between the narrative strategies presented in the WIP and the CAST model scenario. Where discrepancies were found, they were fixed. Several practices described in the narrative were

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		not modeled CAST as current CBP Partnership accounting rules do not allow credit for these types of practices. In these cases, such as with SSO elimination, this was noted in the document.
Modeling Output and Numbers	The arithmetic in Table 1 of the WIP does not make sense. The county-level 2025 nitrogen load targets in Appendix C do not add up to the totals in Table 4. (For sectors other than wastewater, 2025 load targets were calculated by subtracting "reduction goals" from the 2017 loads.)	The final Phase III WIP document was updated to provide further clarification.
Modeling Output and Numbers	There are several inconsistencies between the WIP and the Chesapeake Assessment Scenario Tool (CAST) model loads generated by MDE. *If these variations are due to the different calculations in the model, rather than arithmetic errors, then Maryland must provide the rationale and process for each variation*.	The final Phase III WIP document was updated to provide further clarification.
Modeling Output and Numbers	Build into the Phase III WIP an estimate of additional pounds reduction that Maryland will be responsible for due to climate change and the Conowingo Dam and indicate how the reduction responsibility will be distributed. It is misleading to show that the State will be well under the target knowing that the climate change and Conowingo loads could, and most likely will, exceed the goal. Scenarios could and should be added to show how the projections in the draft WIP could change to account for these loads.	No final decision has been made about what load reductions will be assigned to Maryland due to climate change and Conowingo Dam infill, however, the Phase III WIP does provide an estimate of potential additional reductions due to climate change—approximately 2.2 million pounds. Once this number is finalized, it will be incorporated into the WIP through the adaptive management process, and a plan will be assembled for meeting it. As described in the Phase III WIP report, the Conowingo Infill loads will be addressed through a separate, multi-jurisdictional Conowingo WIP. These processes

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		are ongoing and are fully described in the report. A bigger point that the commenter touches on, that Maryland and other partner jurisdictions will have substantial additional work to do beyond their Phase III WIP goals, is true.
Modeling Output and Numbers	Countywide Targets: The WIP is not clear how MDE developed the countywide sector targets**.** The WIP has a discussion of the basin exchange factors and targeting impaired bay segments, but the text is not clear as to how MDE arrived at the targets for each county and sector. Please expand on the allocation process.	State agencies used information from current Phase I & II MS4 permits, Soil Conservation District Meetings, meetings with county staff, meetings with other practitioner groups and other data sources to anticipate what practices could be installed by 2025. These implementation goals were vetted with county stakeholders and used to create a 2025 CAST scenario. The countywide goals are based on the results of these CAST scenarios. It is important to note that the county-wide goals include implementation from multiple entities and are not specific goals for the county government.
Modeling Output and Numbers	Can MDE describe in more detail the source of the BMP types and implementation strategies included in the left column on page C-29 for the "Urban BMP Strategy" list?	The source of the data in that column comes from a combination of sources: A. Data provided by the county B. Data provided by State Agencies (e.g. DNR) The original BMPs went through a process that aligned original BMP types with those approved by the Chesapeake Bay Program. MDE has provided crosswalk table between the CAST BMP names and the BMP names from the

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		Maryland Stormwater Design Manual. https://www.researchgate.net/profile/Lisa_Wainger/publication/332275400_Cost_Analysis_of_Stormwater_and_Agricultural_Practices_for_Reducing_Nitrogen_and_Phosphorus_Runoff_in_Maryland/links/5cab65c44585157bd32abe9e/Cost-Analysis-of-Stormwater-and-Agricultural-Practices-for-Reducing-Nitrogen-and-Phosphorus-Runoff-in-Maryland.pdf?origin=publication_list#page=10
Modeling Output and Numbers	Howard County coordinated with MDE to review modeled pollutant load results together in early March 2019. It was understood at the time that the modeled load reductions were based on the County's FAP submitted in December 2018. The load reduction values for Howard County provided on page C-28 are very different from the values presented to the County by MDE in March 2019. TN load reductions in lbs/yr as presented to the County in early March were Developed-642, Natural-1,111, and Septic-901 and appear to be based on reductions from a 2019 no action baseline and a full Phase III 2025 implementation. The values in the Phase III WIP are Urban-1,753, Natural-12,447, and Septic-6,012. It is assumed that the Phase III modeling used the difference between 2017 and full 2025 implementation but this doesn't seem to be enough to increase the values to the extent that they are presented in the Phase III WIP. Can MDE explain the large change in load reductions expected?	The load changes attributed to the Urban and Natural sector can be more easily explained in the following manner: Urban load reductions increased due to a 10% Margin of Safety (MOS) that was added to each Phase 1 county in the form of Stormwater Treatment. This MOS was included because at the time of development of these scenarios, MDE did not have instructions on whether, or how much, additional restoration would be required in the new Phase 1 MS4 Permit. Natural loads increased due to a combination of urban, natural, and agricultural scenarios which all share BMPs in this sector. The county summary is not an explicit load estimation for urban BMPs as was given to Howard county in late February. The changes to the septic source

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		appear to have been an error and have been corrected in the final summary tables. If additional errors are found, the State will revisit the WIP BMP levels through the Milestone and adaptive management processes.
Modeling Output and Numbers	Do the load reductions expressed in the bar charts on page C-28 include total loads for the 2025 target year (including changes in loads from growth of a sector such as new urban development or contraction of a sector such as loss of farmland) or have the modeled reductions implemented between 2017 and 2025 been subtracted from the 2017 baseline to show just the reduction? Does the chart show gross or net change?	The bar charts show the total load for 2017 and the projected 2025 based on the BMPs listed in the County WIP summary.
Modeling Output and Numbers	The MDE Phase III WIP infers that Prince George's County will only reply on stormwater treatment practices instead of the range of practices included in our FAPs. The Phase III WIP should represent the range of practices that Prince George's County intends to use as identified in its FAP. **Question: Why are these types of practices not included in the Prince George's County, if the numbers in the WIP do not match our FAP, how were they determined?** **Question: Are counties held to the values that MDE assumed or do counties have the leeway to meet the goals as they choose?**	**Question: Why are these types of practices not included in the Prince George's County If the numbers in the WIP do not match our FAP, how were they determined?** *At the time MDE was building the Phase III WIP CAST scenario, Prince George's County did not have its 2018 FAP available. As a placeholder, MDE worked off of data provided by the county. MDE will update the County's BMPs once the county provides its 2018 FAP.* **Question: Are counties held to the values that MDE assumed or do counties have the leeway to meet the goals as they choose?** *The BMP scenarios in the Phase III*

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		WIP are for planning purposes only and local jurisdictions do have flexibility in meeting the goals as they choose for the WIP. However, those counties with MS4 permits will need to follow guidance given by MDE"s Stormwater, Sediment, and Dam Safety (SSDS) Program for meeting their permitted goals.
Modeling Output and Numbers	There should be more explanations provided regarding the tables in Appendix C. For example, stormwater treatment measures are listed 3 times: acre-feet, acres, and impervious acres. The impervious acres appear to be half of the total acres across counties. **Questions:** Are these three values representing the same set of practices? This should be explained in the WIP. What was the decision to add an additional 10% treatment goal based on? What typical assumptions were made by MDE in determining the urban stormwater goals?	These three units represent three parameters of the same practice. For example a Runoff Reduction practice, with a 10-acre drainage area, might treat 5 acres of impervious land and 5 acre-inches of water. County WIP Summary sheets have been updated to add clarity. The Phase III WIP Stormwater Strategy section states, “Recent MS4 implementation and trend analysis indicates that permittees (nine counties, Baltimore City and the State Highway Administration) should be capable of annually restoring two percent of their impervious surface areas that currently have little or no stormwater treatment. While this level of implementation will be used in the Phase III WIP analysis for estimating load reductions, MDE will continue to work with permittees on an MEP analysis that will indicate what is feasible. This MEP analysis will take into consideration the physical and financial capacity of a jurisdiction to perform restoration, and the need for making significant and continual progress toward Bay and local water quality

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		improvements." The two percent annual impervious surface retrofit number was multiplied by five, the years of a permit, to estimate the equivalent of ten percent impervious treatment that would be achieved by counties implementing MEP during one permit term.
Natural Lands	Provide reductions in projected loads (pounds) resulting from local (county paid) conservation measures and easements, and credit the local jurisdictions for the easements they funded. The reduction in projected loads due to growth that result from easements and other conservation measures at the local level should be credited to the local jurisdiction and the stormwater sector if the county funded the easements or other measures. As the projected reduction in pounds as a result of these easements had to be quantified to include it in the model, the projected pounds reduced for each jurisdiction should be included in each County Goal Summary, along with who is credited with these reductions.	For the first time, Maryland's WIP has included a conservation and protection section, highlighting the importance of protecting mature forests. Maryland has worked with the Chesapeake Bay Program to quantify the impact of state planning and conservation policies on preventing nitrogen load increases. MDE is currently investigating a crediting mechanism for conservation policies and easements within its MS4 permits. The State will investigate ways that those can be used for model credit in the future. A change like this would be made through the adaptive management and milestone processes.
Natural Lands	Increase BMP targets for forest buffers to 1,000 acres, living shorelines to 6,000 linear feet, and wetlands to 500 acres on natural lands.	These goals were calculated based the targeted focus on public lands only as well as the successful completion of the opportunities for natural filters projects identified during previous phases of the WIP. The suitability for natural filters projects on public lands must incorporate considerations of public access desires and perceptions regarding land usage as well as practice-specific considerations. For example, living shorelines

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		(shoreline management) was added to the Natural Lands Sector for the first time in Phase III but its implementation is only appropriate in locations in which sand movement, nutrient cycling and natural shoreline dynamics can achieved. Many living shoreline projects are also relatively small in terms of linear footage, which was factored into the practice's goal.
Natural Lands	Develop protocols that accelerate implementation of natural filters and supporting BMPs. *Identify the specific strategies that will help drive the increase in oyster aquaculture projected in the draft WIP.* *Enhance state oversight of local waivers to living shoreline requirements and prioritize the use of suitable dredge material to rebuild tidal marshes.*	DNR's Chesapeake and Coastal Service has been working with the Parks Department to better facilitate the implementation of natural filters on state lands while enhancing public access. Additionally, CCS has been working with local governments to implement natural filters on other public lands through the Chesapeake and Atlantic Coastal Bays Trust Fund and Resiliency Through Restoration initiative. Future phases of the State Lands Climate Assessment currently being funded by DNR may identify natural filters projects that also align with climate resiliency goals. The Department of Natural Resources is actively pursuing the beneficial use of dredged material by developing mapping tools to assist project siting, drafting guidance documents to assist planning, piloting the technique through its grant programs, and participating in a National Estuarine Research Reserve Science Collaborative project to learn more about the beneficial use technique, thin-layer placement.

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Natural Lands	The state must address discrepancies in the Natural land sector calculations. For example, the amount reduced in each county does not equal the total amount showcased in the executive summary or in the various MDE presentations from workshops around the state. If this is due to variations in the model or calculations, then Maryland must explain this clearly for the public to see that calculations made are correct and appropriately quantify the assumed level of effort.	The implementation targets in the Natural Land Section are based on work being done on public land. Additional tree planting and "natural sector" practices will occur due to work in other sections, such as MS4 permit requirements. The title of the section will be changed to Natural Filters on Public Land.
Natural Lands	In the Trends section, the Forest Conservation Act (FCA) is referenced as the mechanism best suited to protect forests. During the 2019 legislative session, a technical study was mandated to evaluate how successful the FCA has been and consider other alternatives. We recommend the results of that study be integrated into Maryland's WIP when they become available.	We agree with the recommendation, and will seek to improve forest conservation through the WIP and other mechanisms.
Natural Lands	Include a definition of "Natural" sector in the document. This is a new sector for this WIP phase. As some items are treated differently than the previous Forest sector, a description should be included in the document to indicate what it is, what practices apply, who is responsible for this sector, and who gets credit for practices in this sector, and what differentiates them from streamside forest buffers and tree plantings. Urban stream restoration projects should be included in the Urban/Stormwater sector, and it should be clear that the reductions resulting from these projects are credited toward the MS4 permit restoration requirements, where applicable. If the FAPs were used to determine a county's reduction capacity, it should be clear how urban stream	While the natural sector was included in the Bay TMDL and previous WIPs, there are several features that are new to the Phase III WIP. First, the implementation of Urban and Non-Urban, Stream Restoration and Shoreline Management practices will be applied to the natural sector. Second, the application of upland stormwater practices results in reductions of both urban and natural loads. In Table 4, Maryland has attempted to distinguish whether reductions in the natural sector occurred due to implementation in the Urban or Agricultural sectors.

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	restoration projects in the FAPs were handled and in which sector the reduction was counted.	
Natural Lands	Figure D.1 shows very few high-quality streams in agricultural areas, particularly the Eastern Shore and Southern Maryland. Protection of existing high-quality streams is important. The state should identify a plan to restore more streams and to classify high quality streams, particularly in areas where there are currently very few high-quality streams. These efforts could help combat declines in anadromous fish.	There are many streams designated as high quality (Tier II) waters (based on DNR sampling and MDE designation) on Maryland's eastern shore and southern Maryland. These do not show up as well because Figure D.1 is a more generalized depiction that includes many data sets. You can see a map and find out more about Tier II waters and the Anti-degradation policy at this web site - https://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/HighQualityWatersMap.aspx . Data from DNR sampling of streams through the Maryland biological stream survey can be seen on the map at this web site - www.streamhealth.maryland.gov . A process exists where counties can submit data to MDE for potential Tier II designation. The criteria for data that could qualify a stream segment for Tier II consideration is explained on the Tier II web site referenced above.
Natural Lands	Appendix B Page 16. Where are the 1601 acres of wetlands restored 2010 - 2018?	The 4,601 (not 1,601 as mentioned in the comment) acres of restoration were from 14 projects. The largest projects were in the Pocomoke watershed (2,193 acres) and on Deal Island (1,776 acres)

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Natural Lands	Appendix B Page 18. Oyster Aquaculture. Goal should be to increase total number of oysters in the Bay. Show table of historic number of oysters in the Bay. What is target number of oysters to be raised as well as harvested? What is the desired balance? What is meant by $17,500,000 cost to reduce oyster aquaculture?	Agree. The wild oyster population and managed oyster fishery are not being ignored. In fact, DNR and our partners have and continue to place the utmost importance on restoring the Chesapeake's wild oyster population for all its benefits - environmental and economic. Restoring the wild oyster population is not included in the Phase III WIP because, as of the moment, the wild oyster population and managed fishery are not recognized by the EPA as receiving credit toward achieving Maryland's TMDL - which is the purpose of the Phase III WIP document. Currently, only aquaculture is recognized as receiving nutrient reduction credits, hence only its inclusion in the Phase III WIP. Maryland is actively participating in the expert panels and it optimistic that a restored wild population and properly managed commercial harvest will soon be recognized as receiving nutrient reduction credits. If and when that happens, Maryland will certainly include those practices in the WIP. $17,500,000 is the estimated cost to harvest 350,000 total bushels of oysters via shellfish farming.
Natural Lands	In conclusion, it may be beneficial to also identify upcoming BMPs related to oyster reef restoration and licensed oyster harvest that are near completion of the BMP review process in Maryland's Phase III Watershed Implementation Plan	Agree, as new expert panel reports are approved for restoration credit jurisdictions MD consider them for the WIP and milestones. Maryland is actively participating in the expert panels and it optimistic that a restored wild population and properly managed commercial harvest will

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		soon be recognized as receiving nutrient reduction credits. If and when that happens, Maryland will certainly include those practices in the WIP.
Natural Lands	Kent County indicates that they met their tree planting goals on both agricultural and non-agricultural lands, and proposes no increases in their Phase III WIP. The HFHW program found opportunity to plant 25 new acres in the County in the last two years, and have an additional 10 acres ready to be planted in the spring 2020. Several other counties have also set no additional 2025 planting goals for new tree plantings on their agricultural and/or non agricultural lands including Baltimore, Prince George's, St. Mary's, Wicomico, Calvert and Howard. The Alliance believes there are great opportunities for tree plantings in these jurisdictions, and are ready and able to assist in helping these Counties achieve their goals.	Based on the screening of potential opportunity for forest buffers alone and the growth of tree planting programs, we agree with this recommendation. Maryland Forest Service will commit to working with partners and a variety of funding programs to plant at least 20 acres of tree planting and 5 acres of riparian forest buffers in counties that have not already set other targets for these practices. We would be glad to work with the jurisdictions to consider a different target than that proposed above.
Natural Lands	We are disappointed that the wild oyster population and a prudently managed oyster fishery have been ignored; the only mention of oysters as a strategy for water quality improvement is aquaculture (Appendix B; B-18). Coalition counties are more interested in the long-term rebounding of the Bay's oyster population for its filtration services as well as multiple other co-benefits. We advocate for State investment in natural oyster bar replenishment, using native shell and natural diploid oysters that are capable of reproducing	The wild oyster population and managed oyster fishery are not being ignored. In fact, DNR and our partners have and continue to place the utmost importance on restoring the Chesapeake's wild oyster population for all its benefits - environmental and economic. Restoring the wild oyster population is not included in the Phase III WIP because, as of the moment, the wild oyster population and managed fishery are not recognized by the EPA as receiving credit toward achieving Maryland's TMDL - which is the purpose of the Phase III WIP document. Currently, only

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		aquaculture is recognized as receiving nutrient reduction credits, hence only its inclusion in the Phase III WIP. Maryland is actively participating in the expert panels and it optimistic that a restored wild population and properly managed commercial harvest will soon be recognized as receiving nutrient reduction credits. If and when that happens, Maryland will certainly include those practices in the WIP.
Other	Page 11 of the Executive Summary references policies of the "Hogan administration". This is a technical plan and not a political statement.	Consistent with previous phases of Maryland's WIP, this report describes initiatives from the governor's office that address nutrient loads to the bay.
Other	We respectfully request that the officials making the WIP III update add verbiage supporting widespread use of biochar in farms, forests, and cities to accelerate progress in reaching the Bay water quality targets.	The use of biochar as a BMP has not been evaluated or approved under the Bay Program's expert panel process and is not eligible for credit in the WIP. However, MD has supported research into the use of many soil amendments and medias, including biochar.
Other	How will BMP maintenance and verification of local practices be supported across all sectors?	In accordance with CBP Verification Protocols, In 2016, MDA established an independent BMP Verification Team to ensure all reported practices are still being implemented as originally intended. Since that time, over 13,000 practices have been reviewed and approximately 75% are functioning as intended. MDA will continue to review the remaining 20,000 practices over the course of the next few years.

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Other	Howard County is currently evaluating Timbers at Troy Golf Course as a possible location for a high school. The golf course has many streams and natural areas. I am concerned that this location as a high school would be detrimental to the Chesapeake Bay and the many species that currently reside there. Would the "environmental study" going on now include impact on the WIP Phase III?	Maryland's state environmental policies are intended to be consistent with the State's Phase III WIP. The correct application of these policies should therefore assure consistency of projects with the State's Bay restoration work.
Other	It is imperative that roadside drainage be included as a WIP BMP as grass ditches/swales provide qualitative management for not just the road, but the entire contributory drainage area. The Center for Watershed Protection's Ditch Maintenance Manual may be beneficial in describing this BMP. Most rural jurisdictions would be encouraged to use this BMP as development occurs.	Roadside ditch management is a promising BMP, for the reasons described by the commenter: It is a stormwater BMP that can be used to treat agricultural runoff. The Center for Watershed Protection's roadside ditch maintenance manual is scheduled to be released in 2019.
Septic	The WIP says "septic system reductions will include a menu of practices, like septic upgrades, pump- outs, sewer connections, financial incentives, and a focus on public health priorities to ensure sector progress."40 There is neither a timeframe given, nor clarity on how "financial incentives" or a "focus on public health priorities" will result in specific pollutant load reductions. Maryland should add schedules and clarity to this section and the applicable parts of the executive summary.	Maryland is continuing to refine its septic strategy. Additional details will be provided through the milestone and adaptive management processes.
Septic	Maryland should adopt regulations to reduce new sources of nitrogen pollution in watersheds with nitrogen impairments.	Maryland has a variety of programs in place to address nitrogen load increases from growth. These include stormwater Environmental Site Design, land conservation programs such as the Forest Conservation Act and BAT requirements for septic systems in the critical area. Through the analyses to support

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		the development of this Phase III WIP, it was determined that Maryland will be able to meet its 2025 Phase III WIP goals and maintain them until 2045. Additional reductions will be required to meet climate change and Conowingo WIP goals, and the growth component may need to be reassessed to support those initiatives.
Septic	Maryland should also require maintenance and pump outs in order to prolong the lives of existing septic systems and provide a system where failing septic systems can be caught early and outside of property transfer.	Maryland has put in place a variety of programs to incentivize septic pump outs, including septic pump out credit within MS4 permits and the Septic Stewardship Act. While the Septic Stewardship Act is new, there is strong participation in programs for MS4 credit.
Septic	The WIP cites difficulties with staffing at the state and local level as a significant challenge for septic implementation. This is largely due to inadequate funding of MDE as well as the budgets supplied to local environmental health departments from the state. The state needs to increase this funding and carry through with its promises for more education and outreach to homeowners and the counties that make siting decisions for new systems.	The State is continuing to look for effective ways to address septic systems including through programs under the Septic Stewardship Act and through directed state funding.
Septic	Septic connections are higher than what is likely to be completed. No plans or programs exist at this time in Baltimore County that would replace 888 septic systems with connections to the public sewer system. A more conservative estimate of septic connections occurring in Baltimore County is 50 per year, or 350 in the 7 year period between 2018 and 2025.	Septic projections were based on historic implementation levels. These numbers will be adjusted based on the comment.

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Stormwater	When talking about the benefits of meeting the 2025 goals, there should be mention of increased public water contact, recreational opportunities, and increased property values to individuals.	Public water access sites provide opportunities for outdoor recreation, support tourism and economic development in communities, and provide venues for sharing stewardship and natural resources information. DNR provides technical assistance to local governments to develop public water access sites and creates/maintains data on public water access sites Statewide. See the Maryland Public Water Access web application at - https://maryland.maps.arcgis.com/apps/webappviewer/index.html?id=db62ad80097845baba3a4e3f8c1def94. DNR is an active member of the Chesapeake Bay Program's Public Access Workgroup and provides updates annually.
Stormwater	MS4 Permit Requirements Should Not Be "Jurisdiction-Wide"	Comments pertaining to coverage under Maryland MS4 permits should be addressed through the MS4 permit public review process.
Stormwater	MAMSA encourages the State to consider how to address private sources of stormwater pollutant discharges.	Comments pertaining to coverage under Maryland MS4 permits should be addressed through the MS4 permit public review process.
Stormwater	Is MDE looking at the frequency of major 24 hour rain storms, and the potential future need of storm water regulations to control more than more than 1" of rain?	Maryland's stormwater regulations currently require treatment of up to 2.7 inches of rainfall. MDE is reviewing the stormwater program as one of the top priorities to build climate resiliency into its water programs. MDE is working with the CBP Partnership to better understand the impacts of climate change and will use this work to inform any necessary updates to the erosion and sediment control and stormwater programs.

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Stormwater	Release an updated Accounting for Stormwater Wasteload Allocations guidance document. Without it and our next permit, MDE cannot identify Carroll County's reduction capacity.	An updated Stormwater Accounting Guidance is under development and will be released as part of the Phase I MS4 Permit process. The revised guidance conforms to the Phase 6 Chesapeake Bay Model that was used in the development of the WIP.
Stormwater	Add more detail to describe the anticipated impact of climate change on stormwater regulations and facilities. Page 48 (second bullet) indicates that Maryland is considering changes to its erosion and sediment control and stormwater programs. Counties need to know if the State anticipates changes to the stormwater regulations and what these changes are. Counties need to be able to plan ahead if these changes involve revising the ESD to the MEP approach and/or moving toward improvements to current structural practices.	As the intensity and frequency of rainstorm events are altered due to climate change, practitioners in Maryland should anticipate that stormwater regulations will be updated as necessary to reflect these changes. Local jurisdictions will be advised of any changes to the stormwater regulations as that process moves forward. Additional detail may be provided through subsequent WIPs or based on changes in law or to permits.
Stormwater	MDE should consider allowing “self-inspections” to be conducted on privately owned small-scale stormwater management practices to satisfy the verification requirements. MDE should also consider allocating state resources to assist in BMP verification similar to the efforts of Maryland Department of Agriculture. In addition, MDE should consider methods and protocols for acceptance and credit given for small-scale stormwater practices which have been installed through volunteer efforts (non-permit driven). The University of Maryland SMART Tool would be one potential tool to track and account for such efforts.	The USEPA Chesapeake Bay Program and the State's NPDES MS4 permits require verification of the various BMPs used to meet TMDLs on a regular basis. Maryland State law also requires that stormwater BMPs used to meet new development and redevelopment requirements be inspected or "verified" once every three years to ensure continued performance. Each permitted jurisdiction is responsible for ensuring compliance with permit conditions, including BMP verification. However, there is nothing that prohibits a jurisdiction from using a third party or homeowner to conduct inspections on privately owned small-scale stormwater practices

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		for these purposes. Where this occurs, MDE agrees that the University of Maryland SMART Tool is one potential tool that could be used.
Stormwater	MDE should seek ways to incentivize practices that have associated co-benefits. Stormwater MS4 permits should prioritize addressing local water quality, which will in turn serve the Bay in more ways than simply meeting nutrient targets. Stormwater BMPs are not the most cost-effective way to achieve Bay nutrient reductions.	One of the major themes of the Phase III WIP has been the idea of co-benefits, meaning that value that a BMP provides beyond nitrogen and phosphorus reductions, including water quality in Maryland's lakes and streams. Through the upcoming revision to the MS4 Accounting Guidance, and the Stormwater Wasteload Allocation Implementation Guidance documents, the Start will work to further incorporate local water quality benefits into the stormwater restoration accounting.
Stormwater	Enhance restoration requirements in MS4 permits. *Include specific numeric pollution reduction requirements in the MS4 permit in addition to, or in lieu of impervious surface restoration requirements.* *Set a baseline level of "green infrastructure" BMPs that must be implemented over the life of the permit.*	MDE is working with stakeholders and EPA to establish a permittee-specific restoration requirement in the upcoming Phase I MS4 permits based on the Maximum Extent Practicable that a stormwater entity can complete in a five-year permit term.
Stormwater	Improve enforcement of MS4 permits. *Include enforceable interim benchmarks in MS4 permits.* *Correct MS4 credit accounting procedures for the next iteration of MS4 permits before the final Phase III WIP is submitted to EPA.* *Enforce the funding requirements*	Compliance and enforcement is a critical element of ensuring that Maryland's Phase III WIP is successful. A revised version of the MS4 Accounting Guidance will be issued at the same time as the next-generation Phase I MS4 permits that looks to address

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	associated with Financial Assurance Plans (FAPs)	concerns from the previous guidance.
Stormwater	Why has the urban sector goal been reduced with a significant shift in each sector's nitrogen goals?	The development of Maryland's Phase III WIP was guided by three main objectives: feasibility, local input, and balance. To achieve these objectives, county goals were set based on what local practitioners believed could reasonably be accomplished by 2025, with the understanding that the load reduction goals would be distributed across sectors. While the majority of reductions to 2025 will come from the wastewater sector and the agricultural sector, the WIP continues to rely in a significant investment in long-term nutrient reduction capacity on the part of the wastewater and septic sectors through and beyond 2025.
Stormwater	According to the WIP, the fifth-generation Phase 1 MS4 permits will only include a 2 percent / year untreated implementation requirement. This requirement is based on a maximum extent practicable (MEP) analysis of trends. MDE also indicated that jurisdictions that relied on trading to meet their fourth-generation permit implementation requirements will need to make up the remaining untreated impervious acres from the fourth-generation permit by 2024. If a jurisdiction was only able to retrofit 10 percent in the fourth-generation permit, this would mean they would need to meet 20 percent in the fifth-generation permit. **Question: How does MDE expect the jurisdictions to meet this requirement with limited resources and MDE'S MEP analysis?**	Phase I MS4 jurisdictions are working with MDE to perform MEP (Maximum Extent Practicable) analyses to inform the restoration requirement in the upcoming permits. Permits will be based on the results of this analysis. MDE has added the following language to clarify that new science and BMP efficiencies may help accelerate restoration progress: *" The analysis will also consider the impact of updated BMP efficiencies approved by the CBP Partnership."* - Page B-31 of the final Phase III WIP.

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Stormwater	MDE set a 20 percent impervious treatment requirement for the Phase II MS4 permittees. If most Phase I permittees were not able to meet that goal. **Question: Will Phase II jurisdictions be able to meet the new 20% requirement?**	The NPDES Phase II MS4 general permits require the development of a list of projects needed to meet the 20% restoration goal. The permits do not require completion of the 20% goal within the permit term. MDE anticipates that Phase II MS4s will be able to meet this restoration requirement.
Stormwater	Specify measures to increase local capacity and accountability for meeting stormwater and septic load reduction targets. <u>Local Milestones</u> *Increase the share of funding targeted to localities that establish and invest in local milestone commitments, either through robust MS4 restoration strategies or stand-alone milestone documents.* <u>Local Technical Assistance</u> *Offer state cost-share and administrative support for new positions that provide watershed management services for Phase 2 MS4 permittees and other rural jurisdictions.*	<u>Local Milestones</u> Phase I MS4 counties provide annual updates for restoration and new goals to meet their permit requirement and are not required to submit 2-year milestones. As eligibility requirement for receiving funding from certain grants, Phase II or Non-MS4 counties are currently required to maintain 2-year local milestones. <u>Local Technical Assistance</u> MDE has convened a team to look at all suggestions for improving this service. Your comments will be included for the team to assess.

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Stormwater	The WIP says, "for stormwater, reductions will occur over multiple five-year MS4 permit cycles." The WIP should clarify how many five-year MS4 permit cycles are required to complete planned reductions and whether or not the state will begin enforcing the five-year permit terms, rather than administratively continuing permits and failing to pursue timely corrective actions for these violations. The state must clarify how stormwater reductions will occur, when elsewhere in the WIP, the state claims that fewer impervious acre retrofits will be required and climate change and AfG will both increase stormwater pollutant loads.	It is Maryland's plan to continue to include a restoration requirement in the upcoming Phase I MS4 permits and in subsequent permit iterations. Decisions about those permit requirements will be made at the time of permit issuance.
Stormwater	In the first paragraph, under "Trends", the WIP states that "the pace of progress in reducing urban stormwater loads is slower." This should be rephrased to reflect that nitrogen loads are increasing.	Based on modeling done in CAST on 2025 land use and using anticipated stormwater implementation, it is estimated that stormwater loads will decrease slightly. With that said, model adjustments based on better climate science and an understanding of future BMP performance could change the outcome of analyses done in this WIP. These changes will be incorporated into future iterations of the WIP through the milestone and adaptive management processes.
Stormwater	The WIP should mention the following These regulations have greatly reduced nutrients and sediment entering the Bay's watershed due to stormwater runoff, even while the population has continued to grow. In the spirit of parity, it is important to realize that these regulations came online long before the Chesapeake Bay	The conservation and planning policies identified by the commenter are an important part of Maryland's WIP, and many of these were included as part of the State's Conservation Plus scenario. In aggregate, the Conservation Plus policies are expected to lower Maryland's

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	TMDL, at a time when other sectors included within the TMDL were not regulated. 1984- Maryland Sediment Control law 1984- Critical Area Act 1985- Maryland Stormwater Management Act 1989- Maryland Non-tidal Wetland Protection Act 1992- Maryland Forest Conservation Act 1992- NPDES Permit- Regulates earth disturbances of five acres or more 1994- Maryland Standards and Specification for Erosion and Sediment Control 1997- Smart Growth Initiative 1997- Priority Funding Areas Act 1998- Water Quality Improvement Act 2000- Maryland Stormwater Management Design Manual 2004- NPDES Permit- Regulates earth disturbances of one acre or more 2007- Maryland Stormwater Management Design Manual- Requires Environmental Site Design (ESD) 2011- Maryland Standards and Specification for Erosion and Sediment Control Revision 2012- Sustainable Growth & Agricultural Preservation Act (Septic's Law) 2013- Maryland Forest Preservation Act 2017- Maryland Lawn Fertilizer Law 2019- Maryland Forest Conservation Act Amendments Additional local regulations and state laws made more stringent at the local level	2025 nitrogen and phosphorus loads by 86,000 pounds per year and 6,000 pounds per year respectively.
Stormwater	We recommend adding a strategy focused on retrofitting existing stormwater infrastructure to enhance nutrient removal. New technologies are burgeoning in this sector, and a strategy to promote continued innovation and	Maryland continues to pursue innovative strategies for managing stormwater runoff. State agencies work with the Chesapeake Bay Program and through the Chesapeake and Atlantic Coastal

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	implementation will help reduce costs of meeting our goals in this sector.	Bays Trust Fund Innovative Technology Fund to develop new technologies that can be incorporated into the State's MS4 permits.
Stormwater	If soil amendments were added or stormwater protections above and beyond basic engineering which improve water quality or reduce run-off from SWM areas, a credit should be included in the calculation under the growth sector.	Stormwater management practices for new developments which exceed design requirements can be used for generating credit within the State's Water Quality Trading Program provided the entity wanting to generate credits has met baseline requirements.
Stormwater	Push the large urban counties to adhere to MS4 Permit requirements. Baltimore county eliminated its "Rain tax" which reduced funding, staff, and its ability to meet its obligations. The plan should also ensure that land developers offset new pollution from their projects AND control the runoff caused by new roads, impermeable surfaces, and development.	Phase I MS4 jurisdictions are expected to complete the restoration requirement from their current permits as well as undertake an additional requirement in their upcoming permits. These counties are required to demonstrate the financial resources to fund this work through their biannual Financial Assurance Plans. The impacts of new development in Maryland are addressed through a variety of state laws and land conservation programs. Runoff from new roads, like that from new residential development, needs to be treated using Environmental Site Design stormwater controls.
Stormwater	Further separation of sewage and stormwater runoff/runoff in general Greater investments in volume reducing BMPs, mainly permeable pavements Better erosion control on steep slopes- prevents unnecessary sediment and nutrient uptake by runoff	Combined sewers in Maryland are being addressed through Long Term Control Plans which are expected to be completed in 2023. At this point, all combined sewers except some in Cumberland, will be separated. Cumberland combined sewer overflows (CSOs) will be

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		addressed through a capture and treat system. Maryland's MS4 permits continue to incentivize the use of BMPs to address stormwater runoff volume and the State's stormwater requirements for new development require these practices to be installed.
Stormwater	A two percent annual restoration rate may well be beyond MEP for many permittees.	MDE will collaborate with each Phase I MS4 jurisdiction in developing a permit-specific retrofit requirement in the upcoming set of permits.
Stormwater	Questions the State's plan to limit the availability of credits to satisfy fourth and fifth-generation MS4 permit restoration requirements. MAMSA requests that MDE clarify that MEP will be used to determine the requirements for all fifth-generation and subsequent permits.	An MEP analysis will be used to support the development of the fifth-generation Phase I MS4 permits. Similar analyses may be used to support subsequent future permits.
Stormwater	The State Should Work with Localities to Clarify Local Plans. MAMSA Members have many questions about the assumptions made by MDE in developing the local plans provided in Appendix C of the WIP. The WIP should not be finalized until MDE has provided local governments with the rationale behind the local plans.	MDE worked closely with local governments to develop the County Summaries in Appendix C of the Phase III WIP and engaged county staff in one on one meetings during the WIP development process.

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Stormwater	The Natural Lands Sector (Draft Phase III WIP, p. B-14) should be clarified to explain how stream restorations performed by MS4s are credited in the Bay model.	The Natural Lands sector is composed of loads from upland terrestrial sources, like forest and mixed (unmanaged) open, from tidal and non-tidal wetlands, from stream beds and banks, and from shoreline erosion. In CAST, practices from the stormwater sector can impact modeled "Natural" loads in several ways. Tree planting on turfgrass, resulting in a net loss of nutrient loads, will decrease "Urban" loads but increase "Natural" loads. Conversely, the development of forested land into impervious land and lawns will decrease natural loads and increase "Urban" loads. The placement of stormwater management practices on urban land results in reduced "Urban" loads, as well as a smaller reduction of natural loads. The failure to verify these BMPs will result in an increase of loads in both sectors. Finally, credit for reductions from urban stream restoration and urban shoreline management are applied to "Natural" loads. It is important to note that due to the interaction of "Urban" (and "Agricultural") BMPs with "Natural" loads, Phase 6 CAST differs from the Phase 5 model in that increased "Natural" loads should no longer be automatically interpreted as having a positive benefit for the watershed. In developing the County WIP Summaries, MDE has not adjusted the P6 CAST model output.

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Stormwater	MAMSA requests that the State change the text of the Draft Phase III WIP to recognize that the State has no authority to base the restoration obligation on the total amount of untreated impervious area within a jurisdiction.	MDE cannot incorporate language that is contrary to the State's current position regarding restoration requirements in existing Phase I and II NPDES permits.
Stormwater	MAMSA requests that the State add text to the Phase III WIP that recognizes the potential change to MDE's permitting approach based on the outcome of the Phase II MS4 GP appeals.	The WIP is based on the State's current understanding of how permits are applied.
Stormwater	MAMSA requests that MDE change the Draft Phase III WIP to include a reference to the MEP standard in the Phase II MS4 permitting discussion.	The MEP discussion is included in the Phase I MS4 strategies since those permits are currently under development. A description of the Phase II MS4 restoration requirement can be found in the Fact Sheet for the NPDES General Permit for Small MS4s (1) and in the Phase II Permit to for Small MS4s (2). **Links** 1. https://mde.maryland.gov/programs/water/StormwaterManagementProgram/Documents/fact%20sheet%20municipal%20permit.pdf 2. https://mde.maryland.gov/programs/water/StormwaterManagementProgram/Documents/NPDES%20PII%20FINAL/Muni%20PII%20permit%20final%20042018.pdf
Stormwater	Appendix B Page 33. Name the 6 counties and 29 towns for small MS4s.	Jurisdictions covered under the Phase II Permit for Small MS4s can be found here: https://mde.maryland.gov/programs/water/StormwaterManagementProgram/Documents/NPDES%2

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		0PII%20FINAL/Muni%20PII%20permit%20final%20042018.pdf#page=28
Stormwater	Appendix B Page 34. Give schedule/deadline for SW Strategy 6.	Maryland is currently developing a new General Permit for Discharges Associated with Industrial Activities. The permit term will be five years, running through the end of the Phase III WIP period. Any new permittees under the general permit would be expected to meet their requirement in that time period.
Stormwater	Appendix B SW Strategy 7. Say how MDE will improve monitoring of construction sites. Surveys have shown that compliance with major erosion and sediment control regulations is less than 50% in most counties.	According to quarterly and annual reports, MDE estimates a higher level of compliance than the number cited by the commenter. MDE provides triennial inspections of these programs in order to ensure they are operating effectively. MDE's Sediment, Stormwater and Dam Safety staff has been working with each delegated local authority to improve local erosion and sediment control (ESC) programs. Recent efforts include providing guidance on major and minor modifications allowed on construction sites to address practice or ESC plan deficiencies (2018) and releasing guidance on stabilization of disturbed lands during construction to address the issue of stabilization on construction sites (2019).

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Stormwater	The Urban BMP Strategy represents restoration completed during a 10 year period (five years (2019 through 2023) from the financial assurance plan, plus 5 additional years at 2% per year), not the 7 year period 2018 to 2025 applicable to the Phase III WIP. Baltimore County requests that MDE revisit these calculations. Baltimore County recommends that the calculations be revised based on the requirements contained in a new MS4 permit, anticipated to be issued to Baltimore County during 2019. If calculations must be completed before the new MS4 permit is issued, Baltimore County recommends that restoration completed during 2018 and documented in the 2018 NPDES annual report be added to the 2019-2023 financial assurance plan BMPs. This leaves 2024 as the only year remaining between 2018 and 2025. A conservative choice would be to assume no additional restoration in 2024 (protecting against the risk that some projects will be delayed or underperform due to factors beyond Baltimore County's control.)	The WIP calculations assumes that the current Phase I MS4 permit requirements will be completed and that the requirement from one additional (five-year) permit will be completed. The Phase III WIP is scheduled to be posted to MDE's website in August 2019. The fifth-generation Phase I MS4 permit will be finalized after that. If the MS4 permit requirements diverged significantly from what was assumed for WIP development, the State can revisit the WIP calculations through the Milestone and adaptive management processes.
Stormwater	We are nearing the point where debt service payments will reduce the ability of tax revenue to support additional loans or bonds, this will lead to an overall decrease in watershed restoration activities. Extending significant BMP implementation beyond 2025, will face real financial limitations, making the 2 percent restoration requirement not sustainable over time.	The current MEP analysis being used to inform the fifth-generation Phase I MS4 permit development should account for the MS4s' financial resources. Decisions about the specific level of implementation in the sixth-generation MS4 permit will be made during the development of that permit.
Stormwater	The actual length of stream restoration represented in the County's financial assurance plan is closer to 100,000 feet. It is important to clarify that 422,225 feet of stream restoration is not likely to occur in Baltimore County by 2025.	The current amount of stream restoration attributed to Baltimore County for the Phase III WIP scenario in CAST was back cast from an impervious surface rate and does not factor in the

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		new stream restoration protocols higher nutrient efficiencies. The end result was an inflated rate of stream restoration and it will be noted in the county summary. In the future, the State will revisit the WIP implementation levels for this BMP through the Milestone and adaptive management processes.
Stormwater	Stormwater BMPs implemented by stormwater sector actors (such as Baltimore County's MS4) reduce pollution loads from both the stormwater sector and the natural sector (e.g. stream bank and bed erosion). This is acknowledged in a footnote on page 22 of the WIP III, and again in footnotes in Appendix C. Baltimore County is glad this is acknowledged, but requests that this important acknowledgement is given more attention in the text of the WIP. Without this important context, the impact of stormwater BMPs implemented in Maryland is easily misread to be far smaller than the true impact on stormwater and natural sector loads.	Additional text has been added to the WIP report to explain that in CAST, stormwater implementation results in load reductions attributed to the "Natural" sector.
Stormwater	The Phase III WIP should not use the Financial Assurance Plans (FAPs) to determine the reduction amounts for each county. This information cannot be determined without the Accounting for Stormwater Wasteload Allocation guidance document. Projects in the FAP that are beyond the current permit term are a placeholder, not a commitment to do a certain amount, until we know the requirements for the next generation permit.	Projects required under the current Phase I MS4 permits were based off of the Financial Assurance Plans. Projects for the upcoming fifth-generation permit were based off of a default stormwater treatment practice (1”ST) and the estimated MEP level of implementation.

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Stormwater	Page C-1 misleads the reader to believe that Carroll County helped to create local goals for the "developed" sector, and that the FAP was developed with this in mind. For Carroll County, the statement is incorrect.	Through the WIP development process MDE and MDP staff met directly with counties to develop WIP summaries of projected implementation by 2025. In addition, the summaries were provided to counties for review prior to the Draft Phase III WIP being published. The anticipated 2025 county-wide implementation numbers were used to develop a 2025 Phase III WIP scenario in CAST and this was used to establish Maryland's 2025 targets and goals. Some counties opted not to participate in this process, however, participation was generally strong and the collaboration seemed productive. It is unclear which statement on page C-1 is misleading.
Stormwater	Exempt MS4s who have achieved their permit restoration requirements from further restoration requirements after 2025. The document indicates that Maryland is expected to remain below its nitrogen target out to the year 2047. The document indicates that the Agriculture and Wastewater sectors are more cost efficient than the Urban/Stormwater sector. Therefore, it makes more sense to invest in the most cost-efficient and effective practices than to continue to invest in less cost-efficient stormwater practices.	In addition to nitrogen and phosphorus pollution to the Bay, Maryland faces a host of other water quality and water quantity challenges. For example, MDE provides a map of water quality impairments in the State (1). Stormwater practices can have many different benefits and can help to address these non-nutrient issues. The Phase III WIP discussions of co-benefits focus on these impacts. As many of these problems need to be addressed through implementation of stormwater practices it seems reasonable to expect that the restoration requirement will continue past 2025. Furthermore, the Chesapeake Bay TMDL establishes a higher level of implementation in the stormwater sector than will be achieved by

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		2025. **Links** 1. https://mdewin64.mde.state.md.us/WSA/IR-TMDL/index.html
Stormwater	The units listed in the Urban BMP Strategy table on page C-17 do not match or correspond with the scenarios that were discussed between MDE and DPW staff. The County respectfully requests that if and when scenarios and/or inputs to the model are changed that those changes are clearly communicated to the County.	MDE staff will contact county staff to address concerns.
Stormwater	The County requests that the disclaimer shown on page C-16 be modified to add language to the effect that "The specific stormwater management Best Management Practices to be employed are subject to change over time."	The language in the appendix has been updated to the following: "The County Phase III WIP Goals Summary is a planning document and it is anticipated that the specific suite of practices used by counties to meet the PIII WIP goals may differ from what is presented here."
Stormwater	MDE has stated that Counties who meet MS4 permit requirements will meet or exceed WIP goals and targets. This should be clearly noted within the Phase III WIP.	The restoration requirements in Maryland's MS4 permits are designed to be consistent with the Maryland's WIP. It is not correct that counties who achieve their MS4 permit requirements will exceed their WIP goals.
Stormwater	Limiting or capping the number of credits that jurisdictions are permitted to trade will have major implications for jurisdictions, such as Cecil, who are attempting to reach impervious area restoration requirements through the use of nutrient trading. MDE should clearly communicate, now, any intentions of limiting or capping the number of credits permitted to trade.	For limits or caps for trading for Phase II MS4 permittees, please refer to the Phase II Permit for Small MS4s

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Stormwater	The Phase III WIP does not discuss the 2020 Census and potential changes to urbanized areas in Maryland. Provide a discussion in the Phase III WIP regarding how changes in "urbanized" area will impact pollution reduction goals.	Changes to items like the 2020 Census delineation of urbanized areas, if found to have a discernible impact on the 2025 Phase III WIP, could be addressed through the Milestone and adaptive management processes.
Stormwater	Howard County disagrees that the State should continue requiring large and medium municipal separate storm sewer systems (MS4s) regulated under individual Phase I MS4 permits to perform impervious area restoration based on the total amount of impervious area within the political boundary of the County. The County is only responsible for the service area that drains to the MS4 under its control. Information on Howard County's MS4 area was submitted to MDE in December 2018 with its Annual Report Number 23 for Fiscal Year 2018.	For questions about permit coverage, please refer to the relevant Phase I MS4 permit.
Stormwater	The Notes in the County Phase III WIP Goals Summary (Howard County's is on page C-28 and C-29) indicate a different approach stating that for Phase 1 MS4 jurisdictions "an additional 10% treatment goal was added on top of the Financial Assurance Plan scenario provided." Please clarify whether the 10% refers impervious treatment or 10% additional implementation. *Why was 10% added?* *How is Howard County's MEP, this additional 10% and the 2% rate of progress related?*	The Phase III WIP Stormwater Strategy section states, "Recent MS4 implementation and trend analysis indicates that permittees (nine counties, Baltimore City and the State Highway Administration) should be capable of annually restoring two percent of their impervious surface areas that currently have little or no stormwater treatment. While this level of implementation will be used in the Phase III WIP analysis for estimating load reductions, MDE will continue to work with permittees on an MEP analysis that will indicate what is feasible. This MEP analysis will take into consideration the physical and financial capacity of a jurisdiction to perform restoration, and the need for making significant and

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		continual progress toward Bay and local water quality improvements." The two percent annual impervious surface retrofit number was multiplied by five, the years of a permit, to estimate the equivalent of ten percent impervious treatment that would be achieved by counties implementing MEP during one permit term.
Stormwater	Our understanding is that MDE will add an attachment to the Final Phase III WIP once permits have been issued in order to reflect what is actually in the permits. We concur with MDE that the draft WIP goals should not drive permits and caution that the goals as written in the current Draft Phase III WIP for Frederick County may exceed MEP.	Changes to items like the MEP-based restoration requirement in MS4 permits, if found to have a discernible impact on the 2025 Phase III WIP, could be addressed through the Milestone and adaptive management processes.
Stormwater	Under the Stormwater section, the WIP says completing current Phase 1 MS4 permit restoration requirements will account for approximately 20,000 impervious acres. The acreage total should be closer to 34,400 acres (20% of the total Phase 1 MS4 untreated acreage). Maryland must clarify why the additional 14,400 acres are not represented here.	The baseline year for this analysis is 2017, so only acreage remaining from that point forward was included in this calculation.
Stormwater	Under the Stormwater section, the document states that completing new Phase 1 MS4 restoration requirements will account for 17,500 acres but reduce more nitrogen and cost the same amount. There is no accounting mechanism provided for how this will be achieved. Because the stormwater sector is referenced as needing to "build capacity for steady progress", Maryland must	Calculations for the nitrogen reduction in future permits is based on the assumption that permittees will use stormwater treatment practices to treat one inch of runoff (1" ST). If, when restoration plans are submitted to MDE, the differences between the WIP planning numbers and the MS4 planning numbers result in a significantly different load reduction, this may be addressed

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	explain how reduced retrofit requirements result in building steady progress.	through the Milestones and adaptive management processes. The cost numbers have been updated based on comments.
Stormwater	Also under the Stormwater section, the state claims 400 acres of miscellaneous implementation in non-MS4 counties will reduce 5,000 pounds of TN and 500 pounds of TP. There is no referenced information for these numbers. Maryland should include sources so the public can verify them.	The reductions from this section were estimated from the CAST Phase III WIP scenario. Reference information is found in the county summaries in Appendix C, Local Sector Goals.
Stormwater	The annual cost calculation should include any estimate of avoided costs or value of corollary benefits. For example, stormwater management projects may result in less flooding and associated costs for property damage, infrastructure damage, lost business revenue, etc. (avoided costs), and the cost calculation should reflect these, as well as the value of corollary benefits, such as reduced heat island effects and energy costs from urban tree plantings.	State agencies have begun work toward quantifying co-benefits of stormwater management projects. These questions are complicated to answer, but as the commenter points out, highly important. A comprehensive accounting of all co-benefits will likely not be created; however, through processes such as the one where climate change is fully incorporated into the Phase III WIP, the State will work with stakeholders to find answers to these questions.
Wastewater	Page 22. Table 6. Why will the amount of total suspended solids increase from wastewater treatment plants?	The 2017 wastewater sediment load in this table is based on wastewater flows from one calendar year (July 1, 2016 to June 30, 2017), a period of lower-than-average plant flow. The Phase III WIP wastewater sediment loads are based on long-term average flows projected forward based on population growth. A substantial portion of the sediment increase

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		in Table 6 is due to the change in flows. With that said, wastewater loads are a small fraction of overall sediment loads to the bay. Specifically, the 2-million-pound-per-year increase between 2017 and 2025 is less than 0.03% of Maryland's overall Phase III WIP sediment load.
Wastewater	Blue Plains treatment plant is operating at capacity. Since the Washington metro area population is growing, how will the treatment plant accommodate growth to 2025 and beyond?	Blue Plains Wastewater Treatment Plant does not appear to be operating at capacity. Monitoring data from the plant, downloaded from EPA's ECHO database, show average monthly discharges for 2017 and 2018 at 269 MGD and 304 MGD, respectively. According to the discharge permit (1) for the facility, its design capacity is 384 MGD. Links 1. https://www.epa.gov/sites/production/files/2018-10/documents/blueplains_2018_final_permit.pdf
Wastewater	Can MDE describe in more detail the wastewater bar chart on page C-28 and the corresponding note, "sector targets for wastewater are expressed in overall loads that need to be maintained, not reductions, because of the accounting and planning mechanisms used in MDE's 2025 strategy"?	The sector target for wastewater is based on plants discharging nitrogen at 3.25 mg/L as a statewide aggregate. This is expressed as a load, rather than a load reduction, since many plants have already achieved discharge concentrations below the state aggregate concentration for the WIP.

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Wastewater	The wastewater sector is short on both detail and commitment to a specific strategy. It is our understanding that the 2025 target for the wastewater sector is 6.6 million pounds of nitrogen and 0.4 million pounds of phosphorus, based on Table 4 on page 22 and Figure B-7 on page B-38. However, we cannot find substantiating details in the WIP that describe which strategies will achieve these goals.	The Phase III WIP Wastewater Strategies section presents specific details about eleven separate wastewater strategies that will contribute to the sector-specific reductions for meeting the State's Phase III WIP targets. It is unclear what additional substantiating details are needed.
Wastewater	We recommend the state expand its analysis regarding the feasibility of achieving an average statewide concentration of 3.25 mg/L nitrogen for the state's significant POTWs.	Looking at the performance of wastewater treatment plants that have been upgraded to ENR, the majority of facilities have been participating in the BRF O&M grant program, meaning that they are discharging total nitrogen concentrations at or below 3.0 mg/L. Those interested in reviewing annual plant data can download it easily through EPA's online discharge database, ECHO, or through the Wastewater Report function in CAST. It is anticipated that through the strategies described in the WIP that the plants will be adequately incentivized to meet the Statewide aggregate goal of 3.25 mg/L, however, if in a few years this does not appear to be working, the state may need to revisit its programs. As is stated in the WIP, "If future participation in the [wastewater incentive strategy] is not sufficient to meet the State's loading goals, consideration will need to be given to whether the programs need to be adjusted."

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Wastewater	The WIP should clarify whether a 3.25 mg/L average concentration is enough to achieve the state's "overall statewide target" for the wastewater sector or for all sectors.	Per Maryland's Phase III WIP CAST scenario, the combination of municipal wastewater performance at 3.25 mg/L of total nitrogen, plus the other strategies, is sufficient for Maryland to achieve a 2025 nitrogen load 500,000 pounds below its Phase III WIP target.
Wastewater	MAMWA is concerned that multiple members still have questions regarding the assumptions used to develop the Appendix C Local Sector Goals. MAMWA urges MDE to address these questions to the satisfaction of impacted localities before finalizing the Phase III WIP.	Through the public review process for the Draft Phase III WIP, Maryland state agencies are working to address the concerns of commenters.
Wastewater	For clarity's sake, we suggest that the WIP explain why average flows contained in Table 9 of the Draft Phase III WIP (pp. 33-36) are based on 2002-2004 data, rather than more recent data.	The table was updated to include more recent flow data.
Wastewater	Table 9 lists that Maryland portion of the Blue Plains flow as the full allocated capacity under the Intermunicipal Agreement (IMA) between the District of Columbia and the Washington Suburban Sanitary Commission (WSSC). Actual flow to Blue Plains from Maryland is significantly less than the allocated capacity in 2002-2004. This should be corrected in the final Phase III WIP document.	The average flow in the table for Blue Plains Wastewater Treatment Plant has been corrected.
Wastewater	Page 19 Table 3: Table 3 does not appear to reflect accurate DoD owned Wastewater Treatment Plant (WWTP) reductions. Include current reductions from DoD owned treatment plants in Table 3.	Reductions in Table 3 are based off of a baseline year of 2017. Because DoD had already upgraded most of its plants by that year, there were few remaining reductions. With that said, the reductions from these plants from 2010 to 2017 were substantial.

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Wastewater	Page 33: MDE does not appear to be using correct DoD owned WWTP information and current WWTP permit data. Update Table 9 to reflect current design capacity and average daily flows.	The DoD facilities have been added to the table.
Wastewater	Wastewater capacity and the existing waste load allocations associated with that capacity must be maintained in the Phase III WIPs and preserved for serving future growth at these essential facilities.	The commenter is correct. Preserving wastewater capacity for future growth is critical.
Water Quality Trading	Maryland must apply the 2:1 uncertainty ratio to all trades involving nonpoint credits, as EPA expects, and must also adjust its estimates of load reductions associated with BMPs to account for the likely risks of climate change.	COMAR 26.08.11.08 states that, *"An uncertainty ratio of 2:1 shall be applied to trades involving credits generated by nonpoint sources and acquired by wastewater point sources, unless the generator, seller, or buyer of the credit is able to demonstrate to the Department that a lower ratio is justified and protective of water quality standards."*
Water Quality Trading	We want to make sure that the TN and TP reductions accounted for in the WIP III by 2025 are owned solely by the generator of that credit, until they are purchased by a federal, state, county or private entity and cannot be claimed towards nutrient reduction under the WIP III until such credits are purchased.	Nitrogen, phosphorus and sediment credits produced by a generator and certified by the Maryland Water Quality Trading Administrator are owned by that generator until they are transferred to another owner via a certified trade.
Water Quality Trading	Maryland must eliminate trading from consideration as a source of load reductions. *If Maryland incentivizes higher treatment levels at wastewater treatment plants through trading, then the additional load reductions from these plants will be traded to MS4 jurisdictions or other sources that are not meeting their pollution targets. The net change in load from all sources will be zero.*	Under the Phase III WIP, Maryland's municipal wastewater treatment plants, in statewide aggregate, are anticipated to discharge total nitrogen concentrations of 3.25 mg/L, above the trading baseline of 3.0 mg/L. Reductions down to 3.0 mg/L from facilities trying to meet trading baseline should be credited to the WIP. Nearing 2025, if it turns out that there is significant participation in the trading program but that

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		municipal plants are operating, in aggregate, above 3.25 mg/L then the assumptions of this plan will need to be revisited through the adaptive management process.
Water Quality Trading	BOE's would like the WIP to require specific waste load reductions per segment and county so that trades can be as measurable and as precise as possible. *Assigning specific load reductions at the Bay segment and county level, as was done in Phases I and II, offers the specific metrics most useful for a trading program. A feasibility approach that is comprised of lists of practices expected to be implemented by local jurisdictions instead of precise allocations and measurements, may prove challenging.*	Maryland's stormwater permits contain geographically-defined restoration requirements consistent with the WIPs. Permittees have the option of using Water Quality Trading to satisfy a portion of these requirements. Trades would be precisely accounted for within the context of these stormwater permits, and the reported information will be used by the State for its annual progress reporting. It is unclear how adding an additional planning geography into the Phase III WIP would make this process any more measurable or precise.
Water Quality Trading	How will nutrient trading accelerate pollution reduction and protect local water quality and how does the Maryland approach provide verification of implementation?	Nutrient Trading will accelerate nutrient reductions by allowing permittees, such as MS4 jurisdictions, to temporarily meet their restoration requirements through less expensive practices. Protection of local water quality and verification procedures are critical components of Maryland's Trading program, and will be done according to state regulation in COMAR 26.08.11.