

**Comment Response Document One
Regarding Maryland's Phase I Watershed Implementation Plan for the Chesapeake Bay
Total Maximum Daily Load**

The Maryland Department of the Environment (MDE) has conducted a public review of the Phase I Watershed Implementation Plan for the Chesapeake Bay Total Maximum Daily Load. The public comment period was open from September 24, 2010 through November 8, 2010, although a previous version of the document was available for review upon submittal of the draft report to EPA on September 1, 2010. MDE received 126 sets of written comments contained in two parts. Comment response document one (CRD1) is immediately below and contains responses to comments from commenters numbered 1-113. The second part (CRD2) is immediately below CRD1 starting on page 235 and contains responses to an additional 13 commenters. In the pages that follow, comments are summarized and listed with responses provided by State agency staff (MDE and the Departments of Natural Resources, Agriculture, and Planning). Comments and responses are grouped by the categories listed below. By clicking a category on the list and “ctrl” you can jump to that category in the response document.

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Below is a list of commenters, their affiliation, the date comments were submitted, and the numbered references to the comments submitted.

List of Commenters

Commenter number	Author	Affiliation	Date
C1	Vince	Private citizen	9/2/2010
C2	Ann Williams	Private citizen	9/7/2010
C3	John Canoles	Private citizen	9/23/2010
C4	Barry Miller	Redland Brick, Inc.	9/23/2010
C5	Daryl Calvano	St. Mary's County Health Department	9/24/2010
C6	Robert Winchester	Anne Arundel County – Dept. of Inspections and Permits	9/29/2010
C7	Mark Gradecak	Private citizen	10/1/2010
C8	James Durham	Private citizen	10/7/2010
C9	Lynn Thomas	Town of Eaton, MD	10/13/2010
C10	Robert Willey	Private citizen	10/15/2010
C11	David Rickards	Private citizen	10/18/2010
C12	John Olsen	Cree Industries	10/22/2010
C13	Dave Gaetano	Private citizen	10/21/2010
C14	Ariana Sutton-Grier	Private citizen	10/18/2010
C15	Rick Johnson	Alage Producers Inc.	10/21/2010
C16	Majid Aroom	Private citizen	10/23/2010
C17	Sandra Wilson	Private citizen	10/23/2010
C18	Bill Angstadt	Delaware Maryland Agribusiness Association	10/25/2010
C19	Bill Satterfield	Delmarva Poultry Industry, Inc.	10/25/2010
C20	Robert Syphard	Bel Air Tree Committee	10/25/2010
C21	Dan Stone	Private citizen	10/28/2010
C22	Rose Ann Haft	Private citizen	10/26/2010
C23	David Carey	Town of Bel Air	10/26/2010
C24	Paul Sayan	Private citizen	10/28/2010
C25	Rick Konrad	City of Fruitland	10/14/2010
C26	David Craig	Harford County	11/1/2010
C27	Mayor Haven Shoemaker, Jr.	Town of Hampstead	10/26/2010
C28	Gary Dyson	City of Gaithersburg	11/2/2010
C29	Susan Bodine	Barnes & Thornburg LLP	10/30/2010
C30	MULTIPLE	190 Private Citizens	11/3/2010
C31	John Griffin	Town of Church Hill	11/2/2010
C32	Yee Huang	Center for Progressive Reform	11/3/2010
C33	Brenda Dinne	Carroll County	11/4/2010
C34	Bob Whitcomb	Severn River Association	11/4/2010
C35	Frank	Private citizen	11/4/2010
C36	Roy Crow	County Commissioners of Kent County	11/1/2010
C37	Tim Goodfellow	Private citizen	11/4/2010
C38	Hall Ridgway	Private citizen	11/5/2010
C39	Connie Hoge	Private citizen	11/5/2010
C40	Arthur Bond	City of Frostburg	11/5/2010
C41	Brain Fath	Baltimore County Commission for Environmental Quality	11/5/2010
C42	Andrew McLean	Private citizen	11/5/2010
C43	Steven Ball	Charles County	11/5/2010
C44	Erik Michelsen	South River Federation	11/5/2010
C45	Patricia Langenfelder	Maryland Farm Bureau, Inc.	11/5/2010
C46	unsigned	Dorchester Soil Conservation District	11/3/2010
C47	Gary Gumm	Washington Suburban Sanitation Commission	11/5/2010
C48	Julie Pippel	Maryland Association of Municipal Wastewater Agencies, Inc.	11/5/2010
C49	Julie Pippel	Storm Water Association of Maryland	11/5/2010
C50	Suzy Friedman	Environmental Defense Fund	11/5/2010

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Commenter number	Author	Affiliation	Date
C51	John Nelson	Garrett County Planning Commission	11/5/2010
C52	Gary G. Allen	Sustainable Forestry Council (SFC)	11/5/2010
C53	Mark Pfefferle	Montgomery County Planning Department	11/5/2010
C54	Gary M. Browning	Harford County Health Department	11/8/2010
C55	Elmer Weibley	Washington County Soil Conservation District	11/8/2010
C56	Wenonah Hauter	Food and Water Watch	11/8/2010
C57	Steve Stewart	Baltimore County	11/8/2010
C58	Jack Lynch	Monocacy Scenic River Citizens Advisory Board	11/8/2010
C59	Lee Fiedler	City of Cumberland	11/8/2010
C60	Bob Lewis	St. Mary's River Watershed Association	11/8/2010
C61	Carol Fordonski	Queen Anne's County	11/8/2010
C62	Charles R. Rice	Charles Soil Conservation District	11/8/2010
C63	John Griffin	Savage River Watershed Association, Inc.	11/8/2010
C64	Arnie Shore	Private citizen	11/8/2010
C65	Irene A. Larson	Private citizen	11/8/2010
C66	Charles Alexander	Private citizen	11/8/2010
C67	David Hutton	Private citizen	11/8/2010
C68	Fran Earle	Private citizen	11/8/2010
C69	Robert Fireovid	Private citizen	11/8/2010
C70	Sherry Hession	Private citizen	11/8/2010
C71	Bryan Seipp	Center for Watershed Protection	11/8/2010
C72	unsigned	Town of Barton	11/8/2010
C73	Bruce Young	St. Mary's Soil Conservation District	11/8/2010
C74	Stuart Stainman	Private citizen	11/8/2010
C75	Jon Richardson	Carroll County Health Department	11/8/2010
C76	John Groutt	Wicomico Environmental Trust	11/8/2010
C77	Halle Van der Gaag	Baltimore Water Alliance	11/8/2010
C78	Kathy Gramp	Advocates for Herring Bay	11/8/2010
C79	Pamela Faggert	Dominion Resources Services, Inc.	11/8/2010
C80	Edward Niblock	Homeland Renewable Energy Inc.	11/8/2010
C81	Tony Riggi	Queen Anne's County Soil Conservation District	11/8/2010
C82	Shannon Moore	Frederick County	11/8/2010
C83	R. Calvert Steuart	Prince George's Soil Conservation District	11/8/2010
C84	James Gracie	Private citizen	11/8/2010
C85	Leigh Broderick	Carroll County Bureau of Environmental Health	11/8/2010
C86	Lina Vlavianos	The Severn River Commission	11/8/2010
C87	Kathleen Maloney	Maryland State Builders Association (MSBA)	11/8/2010
C88	David Eberly	Allegany County	11/8/2010
C89	Fred Tutman	Patuxent Riverkeeper	11/8/2010
C90	Ruth Berlin	Maryland Pesticide Network	11/8/2010
C91	Ron Brown	Anne Arundel County	11/8/2010
C92	Marsha S. McLaughlin	Howard County Dept. of Planning and Zoning	11/8/2010
C93	Drew J. Koslow	Choptank River Eastern Bay Conservancy	11/8/2010
C94	Sandy Coyman	Talbot County	11/8/2010
C95	Robert Hoyt	Montgomery County	11/8/2010
C96	Tom Ballentine	National Association of Industrial & Office Properties	11/8/2010
C97	Gerald Winegrad	Senior Scientists & Policy Leaders for the Bay	11/8/2010
C98	Andy Galli	Clean Water Action	11/8/2010
C99	R & S Stetson	Private citizen	11/8/2010
C100	Chris Trumbauer	West/Rhode Riverkeeper	11/8/2010
C101	George Rathlev	Private citizen	11/8/2010
C102	June Sevilla	Private citizen	11/8/2010
C103	Robert Lukinic	Southern Maryland Audubon Society	11/8/2010
C104	MULTIPLE	11 Private Citizens	11/8/2010
C105	Bernard D. Murphy	Jones-Hamilton Co.	11/4/2010

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Commenter number	Author	Affiliation	Date
C106	Tommy Landers	Environment Maryland	11/8/2010
C107	Tommy Landers	Environment Maryland	11/9/2010
C108	Gregory A. Bowen	Calvert County	11/8/2010
C109	Charles Bowling, Jr.	Maryland Grain Producers Association	11/3/2010
C110	Kevin J. Igli	Tyson Foods, Inc.	11/8/2010
C111	Alfred Foxx	City of Baltimore	11/8/2010
C112	unsigned	PEW Environment Group	11/8/2010
C113	Jon P. Devine, Jr.	Natural Resource Defense Council	11/8/2010

General Objection

Comment # 1.

Commenter: C4

The commenter feels that MDE is rushing frantically to get regulations in place to satisfy the requirements and timeframes set by EPA. He cautions Maryland to consider this point because when in this condition people tend to make errors and tend to avoid using common sense. He feels that errors in the implementation of this plan could have widespread cost implications for years into the future for farmers and businesses in Maryland and will ultimately and needlessly cost jobs.

Response: The time frame was set by a legal agreement between EPA and a litigant, and there was no flexibility. However, there is an opportunity for corrections during Phase II which Maryland projects will provide an entire year to revise Phase I.

Comment # 2.

Commenters: C17, C19

The commenters note that hundreds of millions of gallons of raw sewage flow to the Bay and its tributaries annually according to data voluntarily reported by the counties and municipalities to MDE and reported on the MDE website, yet MDE appears to discount the importance of these sewage spills to bay water quality. They state that these nutrient inputs must be counted in the TMDL allocations and considered in the WIP.

Response: While there are millions of gallons of sanitary sewer overflow, they are not given an allocation in the TMDL because they are illegal discharges and must be stopped. There are two major consent decrees in place, requiring the expenditure of more than \$2 billion to fix these problems. Further, although the flows are very large, the actual nutrient content is relatively low because raw sewage is very dilute. The more critical concern is the bacterial contamination, which is not part of the Bay TMDL but is being addressed by dozens of local TMDLs for bacterial contamination.

Comment # 3.

Commenters: C17, C19

The commenters expresses concerns that it appears as if the WIP has nothing in it related to failing government infrastructure. Failures of government systems can lead to huge increases in nutrients and sediments reaching the bay and its tributaries. The WIP needs to consider such possible failures.

Response: See response to comment 2.

Comment # 4.

Commenter: C27

The commenter states MDE has made municipal water and sewer expensive and suggests that when public utilities are inordinately expensive, developers migrate to projects supported by private wells and septic systems. The commenter feels that despite its commitment to *Smart Growth*, Maryland has become the wholesale distributor of suburban sprawl through its policies. However well intended the draft WIPs and TMDLs may be, the opportunity exists for unintended consequences.

The commenter states his town, Hampstead, has an enviable record of environmental stewardship and sees every scenario having local government absorbing the brunt of the regulatory impact and feel that there is no assurance the vast expenditure of time and money embodied in the draft regulations will make any difference in water quality. The commenter suggests that even if wastewater treatment plants to produce distilled water, that it won't be enough to clean the Bay and that the serious scientific community understands this, but these regulations are not being driven by serious scientists. The regulations are being driven by partisan politics and special interest groups who have agendas far beyond a clean Chesapeake Bay.

Response: Municipal sewer services have become more expensive but also more effective. Maryland has very good evidence from previous upgrades of major sewer systems in the Potomac, Patuxent, and Back River that upgrades do make a significant difference in water quality. The commenter is correct, that by itself upgrades to municipal point sources will not be sufficient, therefore the Watershed Implementation Plan call for reductions from all sectors. The impact of local water quality caps on Smart Growth is a significant and difficult issue that Maryland has tried to address through the "Accounting for Growth" part of the Plan. This will be further developed through Phase II and beyond and the State hopes that commenter will assist the Bay Cabinet agencies in crafting that plan.

Comment # 5.

Commenter: C35

The commenter states that the WIP is a good list of things that can be done to help restore the Bay, however it does not seem to be a plan in terms of spelling out who will do what when. For years, Maryland has had the Tributary Strategies and detailed TMDLs at the 8-digit subwatersheds. Aside from wastewater treatment plants (WWTPs), the commenter has not seen a TMDL implemented at the local level and suspects that most current planning commission members do not know what a TMDL is or why it should be important to decisions they are asked to make about the development and land use.

The problem with Bay restoration has been the lack of implementation even with requirements in place. The commenter has not heard how this new approach will change the lack of implementation. The commenter feels there are no good examples for how implementation is to be completed at the local level. The commenter notes that local governments need to be clearly told what is expected and need a roadmap for how they are to implement what will be seen as new requirements. They will need to understand watershed level planning and learn how to apply that to development and land use issues before them.

The commenter asks how agriculture requirements will be mixed with other land use requirements and who will be responsible. What tools will they have to use? Where are the lessons learned from prior activities? What will happen when a developer's law firm challenges the TMDL? Will MDE produce the "usual cast of characters" that to explain the model? The commenter closes with asking

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why it looks like the State is circling back to planning and TMDL establishment, vetting plans, and setting new timetables while the clock continues to turn and wonders if it could be “implementation aversion.”

Response: These issues have been addressed in the final Plan submitted to EPA on December 3.

Comment # 6.

Commenter: C42

The commenter states that farm operators are required to have a nutrient management plan and manure application is regulated by these plans and specific dates. He further states that technological advances in application machinery do a much better job today than 20 years ago and keeps improving and commercial fertilizer is primarily imported and comes largely from non-renewable resources. The number of animal units and agricultural acreage in the watershed continues to diminish, while the number of people keeps increasing. The commenter feels increased regulation will not help Bay water quality.

Response: At this time, additional regulation is only a contingency. The State has worked hard to write a WIP that would not require EPA backstops such as are occurring in other States.

Comment # 7.

Commenter: C58

The commenter has specific concerns, but the lack of detail in several areas of the implementation strategy makes providing constructive comments on the entire WIP very difficult. The commenter anticipates having significantly more robust feedback once the sub-segment loading allocations and accompanying implementation measures are promulgated in the coming months.

Response: The farm community in Maryland has always been willing to do more to improve water quality and protect their land. Maryland farmers have made good use of existing voluntary program to reduce 49% of the Nitrogen load going into the Bay since 1985. Many more specifics have been added in the final plan to submitted to EPA on Dec. 3, and the opportunity for revisions will be provided during the Phase II process from January to at least June of 2011.

Comment # 8.

Commenter: C60

The commenter states that the WIP can be better. It should include more required measures rather than continuing an over-reliance on the voluntary approach—an approach that have not served us well in the past. Unfortunately *voluntary* usually is interpreted as *unnecessary*. There clearly needs to be reasonable assurances included in the plan indicating that it will be successfully implemented.

Response: See the response to comment 5.

Comment # 9.

Commenter: C69

The commenter states that credibility of the WIP is decreased because population stabilization is not mentioned. The commenter states that one necessary step needed to minimize detrimental impacts on the Chesapeake Bay is stabilizing the human population and if population growth continues, water quality and biodiversity in the Chesapeake Bay Watershed will continue to deteriorate.

Response: This is not something that can be addressed directly. However, Maryland anticipates that the effect of population increases in Maryland will be mitigated by the new requirements to account

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for, i.e., offset the nutrient effects of, growth, and by new stormwater requirements that may have the effect of decreasing the rate of growth of impervious surface.

Comment # 10.

Commenters: C77, C89, C93, C100

The commenters note that Maryland should not take much comfort in our observation that its WIP is the best of a bad lot. The Maryland draft WIP has fatal deficiencies with far reaching implications for the Maryland and Bay environments. The WIP mainly inventories the state's existing pollutant control programs unaccompanied by programmatic or funding commitments or deadlines for implementation. The commenters point out that the WIP really does not explain who is on the hook, for what, by when, and how much it's going to cost. Without specific, enforceable, time-sensitive implementation in the difficult areas, it appears likely that implementation will not happen.

Response: See the response to comment 5.

Comment # 11.

Commenters: C77, C89, C93

The commenters note that the draft WIP was written to solicit public comments on a wide range of pollution control strategy options chosen to implement the needed reductions and will be selected with through public comments. Some options include a nutrient reduction amount, while others do not. The commenters note that similar options have been proposed for the Bay clean-up in Tributary plans or seen over and over again, so that the WIP is not much of an improvement from earlier Tributary Strategies and because of the way Maryland has created the draft WIP, the public is left to guess as to what Maryland really thinks should be in the final WIP.

Response: The big difference from previous attempts at Bay restoration is not in the strategies but in the accountability framework and in EPA's demonstrated willingness and determination to take a more assertive regulatory stance.

Comment # 12.

Commenter: C95

The commenter, Montgomery County, states that they are only providing general comments because, except for WWTPs, the WIP does not provide enough specific guidance to determine the impacts to their other local programs.

Response: See response to comment 5.

General Support

Comment # 13.

Commenter: C2

The commenter is very impressed with the draft plan. She particularly liked the balanced approach concerning homes and farms.

Response: Comment noted.

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Comment # 14.

Commenter: C4

The commenter thanks Maryland for the opportunity to comment on this Plan and appreciates the Stakeholder meetings that MDE has held to discuss these issues as we have attended meetings in Washington and Frederick County. They applaud and agree with Maryland's attempts to protect the environment and improve water and air quality.

Response: Comments noted.

Comment # 15.

Commenter: C9

The commenter feels that MDE and its partners should be commended on the hard work and thought that went into the preparation of the WIP.

Response: Comments noted.

Comment # 16.

Commenter: C14

The commenter supports the focus on cleaning up the wastewater treatment plants, septic systems, and other point sources as much as possible. She appreciates the focus on storm water runoff from nonpoint sources including agriculture and urban areas. She is particularly supportive of the suggestion to retrofit stormwater systems so that combined sewer systems can be separated and thus preventing sewage from overflowing into the Bay during storm events. This modernization of storm water systems is very important for the health of the Bay.

She supports the protection of open-space and ecosystems as much as possible. The commenter states that development in the Bay watershed has been astonishing in the past several decades and it must be controlled and there needs to be more open-space and functioning ecosystems to provide natural water purification. This means particularly forests and wetlands. Conservation of healthy ecosystems should be a top priority but also the restoration of degraded systems where this is possible.

The commenter supports the need for money for social marketing and education in order to get more public buy-in to the reductions.

Response: Comments noted.

Comment # 17.

Commenter: C14

The commenter attended the public meeting in Annapolis and she very much appreciated the info presented at that meeting. She is pleased and proud that Maryland is leading the way in terms of doing a good job of reducing nutrient and sediment loads and being very proactive dealing with these issues.

Response: Comments noted.

Comment # 18.

Commenter: C26

The commenter thanks the state, on behalf of the citizens of Harford County, for the opportunity to participate in the development of the Phase I WIP. This document is an important tool in our efforts

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to improve and protect water quality in the Chesapeake Bay. Harford County commends all the Maryland State agencies for preparing a comprehensive plan that addresses pollutant loads from various sources and political jurisdictions. We recognize that protecting and improving our natural resources will require the cooperation of Federal, State and local government agencies, and the efforts of all citizens who live and work in the Chesapeake Bay watershed.

Response: Comment noted.

Comment # 19.

Commenter: C29

The commenter represents several organizations and they appreciate Maryland's recognition of the tremendous progress that agriculture and forestry have made in improving the water quality of the Chesapeake Bay. As noted on page 5-33 of the Draft WIP: "Maryland agriculture loads to the Bay have reduced significantly over the last 15 years. Implementation progress through 2009 shows a 50% decline in agricultural loads for nitrogen and a 34% decline in phosphorus loads...."

The commenter encourages Maryland to continue to develop its plan for implementing the TMDLs for the Chesapeake Bay Watershed in the manner Maryland believes is best for its citizens and the environment and that continues Maryland's recognition of the tremendous progress that has already been made by the agriculture community.

Response: Thank you for your encouragement.

Comment # 20.

Commenter: C34

The commenter, Severn River Association, states they are a strong supporter of the process and plan to implement *pollution diets* for the Chesapeake Bay and specifically for each watershed. They encourage MDE to further refine the WIP defining the TMDLs for each watershed, and detailing the necessary provisions that would enable Anne Arundel County and the State to enforce them.

Response: See response to comment 5, and participate in Phase II.

Comment # 21.

Commenter: C38

The commenter congratulates Maryland on the excellent job drafting its WIP with sufficient vigor and integrity so that it achieved compliance with the overall loading allocations for nitrogen, phosphorus and sediment under the TMDL. He attended the public hearing on the Maryland WIP in Timonium on October 4, led by Richard Eskin, and was very much encouraged by the positive approach which he and his colleagues reflected in their remarks. There was recognition by them and many in the audience that "we are all in this together" and we all need to pitch in and do everything we can to achieve the goals for restoration and preservation of water quality reflected in the TMDL.

The commenter states that Maryland draft WIP is a thoughtful, well-crafted document which reflects a major commitment by the state to undertake the necessary tasks to achieve the necessary load reductions, working with all of the many persons and entities whose activities contribute to that pollution loading. He appreciates the opportunity to submit the foregoing comments and hope that they are helpful.

Response: Comment noted and appreciated.

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Comment # 22.

Commenter: C50

The commenter applauds Maryland's leadership in advancing restoration of the Chesapeake Bay while maintaining a strong commitment to the state's agricultural community and industry. Maryland has been a leader, both in responding to WIP requirements and in reducing loads from all sectors over the past decade.

Response: Comment noted.

Comment # 23.

Commenter: C77

The commenter notes that the Phase I and II WIPs are a complex and complicated process and hopes that MDE and its partner at EPA will continue to push forward with a comprehensive set of new rules and ensure sufficient oversight and funding is available. Additionally, the commenter hopes that there will be continued openness and collaboration with local governments and the many non-profit organizations, business groups and academic institutions dedicated to improving water quality in our streams, rivers and the Chesapeake Bay itself.

Response: This will be refined by Phase II and follow on with milestones to be tracked through BayStat by Maryland and ChesapeakeStat by EPA. The accountability framework will play a large role in making this time different.

Comment # 24.

Commenter: C57

The commenter states that Maryland produced a comprehensive WIP, especially considered the limited time frame within which it was developed.

Response: Comment noted.

Comment # 25.

Commenter: C76

The commenter supports strengthening Maryland's efforts to address pollution in the Chesapeake Bay through its draft WIP submitted to the EPA. The commenter states that the leadership in this effort has been outstanding.

Response: Comment noted.

Comment # 26.

Commenter: C60

The commenter praises the leadership in crafting perhaps the strongest draft WIP submitted to the EPA and states the Maryland administration has always been at the forefront in leading efforts to clean up the Bay and its tributaries, and this is clearly exemplified in its draft WIP. The commenter is particularly pleased that the plan was consistent with Maryland's previous commitment to target the cleanup of the Bay to 2020, not 2025. Lag time in witnessing the effects of cleanup programs clearly undermine credibility and momentum. Therefore an accelerated timeline will serve Marylanders.

Response: Comment noted.

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Comment # 27.

Commenter: C83

The commenter commends that the plan attempts to strike a balance between agricultural and urban sources, treating both sources equally.

Response: Comment noted.

Comment # 28.

Commenters: C65, C70

The commenters thank the leadership in designing a draft WIP that is stronger than most other states. They are pleased that the WIP is consistent with Maryland's previous commitment to target the cleanup of the Bay to 2020. Meeting these cleanup dates will require a serious commitment to achieving the TMDL goals.

Response: Comment noted.

Comment # 29.

Commenter: C44

The commenter commends Maryland for being one of only two jurisdictions in the Chesapeake Bay watershed not required by the EPA to make major revisions to its draft WIP.

The commenter states it is a bold proposal to aim for reaching Maryland's pollution reduction goals by 2020 rather than 2025, and the commenter is fully supportive in helping in any way possible. However, the commenter is concerned that without sufficient fiscal resources, and the political courage necessary to achieve them, we will never achieve a clean Chesapeake Bay in our lifetimes. Thank you for your consideration.

Response: Comment noted.

Comment # 30.

Commenter: C63

The commenter, SRWA, thanks MDE for its leadership in crafting a strong draft WIP and is pleased that the WIP is consistent with the State's previous decision to target the cleanup of the Bay to 2020. The commenter states that to reach this target, all seven jurisdictions in the Bay watershed will have to make serious commitments to achieving the TMDL numerical pollution reduction goals. The commenter hopes that MDE's leadership will inspire the other jurisdictions to submit solid, substantial and acceptable final Phase I WIPs by November 29, 2010.

In particular, SWRC applaud the inclusion in the first draft of the WIP of measures that:

- Specifically address the question of whether and when operators of large industrial farms should put manure on their land;
- Require the continuing upgrade of all major waste water treatment plants; and
- Address the retrofitting of up to half of the covered surfaces in the largest counties, as well as requiring upgrades of septic systems located in riparian areas throughout the State.

Response: Comment noted.

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Comment # 31.

Commenter: C64

The commenter supports efforts needed to enforce regulations that affect the health and improvement of the bay and its surroundings. The commenter understands that enforcement takes substantial effort that will come at a cost. The commenter is willing to pay for his household's share in taxes to accomplish the aforementioned goal.

The commenter believes that the government, and not non-government organizations, needs to enforce regulations and taxpayers need to pay for enforcement. The commenter suggests these should be reflected in the WIP.

Response: They are reflected in the final WIP and will be further addressed in Phase II and subsequent implementation actions.

Comment # 32.

Commenter: C74

The commenter commends Maryland for doing an excellent job of preparing a draft WIP that complies with the EPA TMDL.

Response: Comment noted.

Comment # 33.

Commenter: C100

The commenter points out that the TMDL/WIP process presents the best opportunity in a generation to bring about significant positive change in the health of the Chesapeake Bay and its tributaries. The State of Maryland should be commended for submitting a timely, thorough, and detailed WIP.

Response: Comment noted.

Comment # 34.

Commenter: C79

The commenter appreciates the opportunity to comment on the Maryland WIP. The commenter applauds the efforts of Maryland to develop an equitable approach to restore the ecological and economic vibrancy of the Chesapeake Bay. However, they urge Maryland to maintain equity within its next iteration of the Maryland WIP, and request that Maryland work to avoid the disparate impacts of the EPA backstops.

Response: Maryland has tried very hard to be responsive to EPA's comments on the draft WIP and prepare a final submission that will not require EPA to impose backstops. At the time this response is being written, Maryland is waiting for EPA's final decision, but are hopeful there will be no, or at the most minor, backstops.

Comment # 35.

Commenter: C84

The commenter states that MDE and Maryland Department of Natural Resources (MDNR) are to be congratulated for such a comprehensive document. The commenter is especially pleased that the approach now includes two-year milestones for implementation.

Response: Comment noted and thank you.

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Comment # 36.

Commenter: C78

The commenter (Advocates for Herring Bay) strongly supports efforts by Maryland to meet and maintain the limits established by the EPA on pollutant loads to the Chesapeake Bay. The measures outlined in the WIP would, if implemented effectively, help make progress towards those goals. What is unclear is how the wide range of options in the draft plan will produce tangible results.

Response: This is clarified in the final submission to EPA on Dec. 3, and will be further clarified through the Phase II process.

Comment # 37.

Commenter: C106

The commenter praises the leadership in crafting a promising draft Phase I WIP. A strong WIP will be essential to the success of the Chesapeake Bay TMDL, especially since EPA determined that Maryland's plan could achieve the pollution reductions necessary to achieve a restored Bay.

Response: Comment noted.

Comment # 38.

Commenter: C94

The commenter commends "the people putting the WIP together" for addressing a daunting task and producing a largely understandable document.

Response: Comment noted.

General Phase I WIP

Comment # 39.

Commenter: C4

The commenter states that it appears MDE is rushing to get regulations in place just to satisfy EPA requirements and timeframes, and that this will lead to errors in implementation that could have widespread cost implications for farmers and businesses in Maryland. The commenter provides examples of errors in judgment, citing the proposed development of a local TMDL for phosphorus for the Monocacy River. He notes that MDE is using data from other waterbodies not comparable to the Monocacy to compensate for a lack of adequate data for the Monocacy itself. Furthermore, the commenter states that MDE is developing a "rule for phosphorus" for the upper Monocacy River watershed even though the aquatic life in the Monocacy has been determined to be healthy. The commenter concludes that developing a TMDL for the watershed is unnecessary but it appears that MDE is doing so just to satisfy EPA regulations.

Response: Questions regarding MDE's methodology for proposed TMDLs to address pollutant impairment listings for Maryland 8-digit watersheds (like those in the Monocacy River system) will be addressed through the TMDL development and public review process for those projects. The commenter cites MDE's approach to such projects as examples of "errors of judgment" due to MDE's "rushing to regulate," which he suggests MDE is doing by complying with the requirements of EPA's Chesapeake Bay TMDL. From a historical perspective, there is nothing rushed about the Bay TMDL project; it comes after twenty-five years of mostly voluntary, cooperative efforts by the Bay partners

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that have resulted in significant progress towards restoration of the Bay waters and protection of its living resources. Nevertheless, because the ultimate goal has not yet been reached, the Clean Water Act mandates that a TMDL must be developed to ensure that water quality standards established by the jurisdictions to support living resources in the Bay will be met. In 1996, EPA declared part of the Bay in Virginia impaired by nutrients; Maryland voluntarily listed most of its tidal waters as impaired for nutrients and sediment. A consent decree was issued requiring the Virginia impairments to be resolved by December 2010. This was followed by the Chesapeake 2000 Agreement in which the Bay partners agreed to achieve a clean Bay by 2010 or, failing that, to develop a TMDL. Specifically, the Bay TMDL will set limits for nitrogen, phosphorus and sediment that meet dissolved oxygen, water clarity, and submerged aquatic vegetation criteria. Maryland's draft WIP is the first stage in the State's effort to provide reasonable assurance that the goals set forth in the Bay TMDL can and will be met. The process that has brought us to the present point in time has been a long one, and that process will continue into the foreseeable future as the State moves forward with an adaptive management approach to implementation, including refinements and adjustments to the specific details and requirements of its WIP, as needed in order to ensure that it is as fair, transparent, and effective as possible.

Comment # 40.

Commenters: C17, C19

The commenters note that the chicken industry, especially confined animal feeding operations (CAFOs), and all of agriculture already are highly regulated by state and federal environmental agencies. There must never be an assumption in the state government and within EPA that agriculture is not already highly regulated.

Response: While all farms in Maryland are currently required to have nutrient management plans and many animal operations are regulated by MDE, other states do not have the same degree of regulation on agriculture.

Comment # 41.

Commenter: C26

The commenter suggests that instead of solely looking at equal percentage of reducible load so that no one source sector is hit harder than others, the WIP should take cost into consideration. No one sector should carry the burden, and no sector should be free of responsibility; however, cost needs to be considered when allocating the percentages.

The commenter states it is imperative that a cost analysis is included in the WIP in order to ensure that all sectors are treated fairly. There must be a level playing field in the determination of baseline data. Farmers who have been operating in an environmentally-friendly manner for years should not be penalized by "setting the bar too high" when compared to other industries and sources, and should not be unfairly targeted for meeting the TMDL requirements.

Response: Cost will be the major focus of Phase II development.

Comment # 42.

Commenter: C26

The commenter notes that it is conceivable that the Chesapeake Bay TMDL WIP could be in conflict with the implementation plans of other TMDLs. Would one TMDL supersede the other?

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Response: The more stringent of the Chesapeake Bay TMDL and a local TMDL for nitrogen, phosphorus, or sediment TMDLs will pertain. Counties should review existing implementation plans and incorporate them into their Phase II WIP.

Comment # 43.

Commenter: C28

The commenter notes that agriculture currently contributes the highest loads and has made the least improvements to date, despite the availability of public funding. As a result, the lowest cost per pound reductions available are in this sector and the states should require agriculture to accept the appropriate responsibility for change. The commenter states that the proposed EPA backstop measures and state plans provide the wrong incentives for performance by this sector.

Response: Although Maryland farms contribute 37% of Maryland's nitrogen load to the Bay the farm community in Maryland has always been willing to do more to improve water quality and protect their land. Maryland farmers have made good use of existing voluntary program to reduce 49% of the Nitrogen load going into the Bay since 1985.

Comment # 44.

Commenter: C87

The commenter cautions MDE against promising full TMDL compliance by 2020, five years before required by EPA; and at a higher compliance rate of 70 percent versus the 60 percent EPA requirement. Requiring any sector to fulfill their TMDL requirements 30 percent sooner and at a greater percent than required by EPA will only serve to put a more severe strain than necessary on all Maryland citizens and on our local governments in an already slow economy.

Response: Maryland must make every effort to achieve this target. It is too soon to judge what level of success may be attained.

Comment # 45.

Commenter: C46

The commenter suggests that Maryland should stick to the federal timetable and not try to meet the goals in 2020, 5 years earlier than all other Bay states. The extra requirements tied to meeting these TMDL goals, in addition to being accelerated, will negatively impact all segments of Maryland while our partner states are not sharing in the burden equally.

Response: See response to comment 44.

Comment # 46.

Commenter: C31

The commenter states that the WIP must show how the TMDLs for nitrogen and phosphorous will be achieved in each watershed by 2025 with an interim target date of 2017. The implications are important for Church Hill.

In addition, the commenter states that the draft WIP cannot be considered a plan. Currently, the WIP is really only aspiration and like previous attempts at restoration, its success seems suspect. The WIP provides no direction on the important strategies that are critical to achieving necessary nutrient reduction. In the commenter's watershed, agricultural is the overwhelming contributor to nutrient pollution. Until commitments are locked in on the agricultural sector, the State does not have a plan.

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It is difficult for the commenter to accept further constants on good, well-planned, infill development when the State's draft WIP only offers a listing of possible agricultural strategies.

Response: County and watershed allocations and plans will be developed during Phase II. The final submission to EPA on Dec. 3, provided more details including dates by which various actions will be taken. In particular, there was additional detail on agricultural strategies.

Comment # 47.

Commenter: C92

The commenter notes that the schedule in the WIP is to achieve 70 percent implementation by 2017, but the WIP provides limited information on estimated costs, estimated staff and funding resources available. Where that information is provided, the commenter is concerned that there is a significant gap between available and needed resources. The commenter point out that the implementation effort proposed will require increased staff and funding levels at the local, State and federal level. The commenter believes that the WIP should:

- Include a more detailed discussion on the gap between needed and available resources, and present options to address this gap in order to make preparations for the Phase II WIPs and for inclusion in future budgets;
- Emphasize the use of cost-effective strategies to achieve reductions; and
- Present a realistic proposal, with an acknowledgement of the need for increased resources, to achieve the Bay TMDL, for Phase I and II WIPs.

Response: Significant additional detail on costs was provided in the final submission to EPA on Dec. 3. Cost effectiveness will be a major issue in Phase II.

Comment # 48.

Commenter: C104

The commenter would like to thank Governor O'Malley for his leadership in crafting a strong draft WIP. The commenter states that Maryland has always been a leader in efforts to clean up the watershed, and that leadership is clearly exemplified in its draft WIP. The commenter expressed appreciation that the WIP was consistent with Maryland's previous commitment to target the cleanup of the Bay to 2020—not 2025. The commenter expresses that meeting these cleanup dates will require a serious commitment to achieving the TMDLs numerical pollution reduction goals.

The commenter states that although the WIP received a passing grade from the EPA, it can be strengthened. The commenter expresses concern that although there is an excellent suite of pollution control options, there is not a specific commitment to any of these options, in addition to lack of clear funding commitments or deadlines for implementation. The commenter requests MDE to be more specific and expansive in the final WIP and include contingencies should some options be delayed or prove to be impractical.

Response: This has largely been addressed in the final submission to EPA.

Comment # 49.

Commenter: C33

The commenter notes that the TMDL notice states, "EPA intends to work with federal partners, the six watershed states, the District of Columbia, local governments, and other parties to put in place a comprehensive, transparent, and accountable set of commitments and actions..." It is not clear from the WIP what the specifics of the commitments and actions are, especially related to local

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jurisdictions. The commenter states that ultimately, implementation is a shared effort and it is essential to be clear on who is legally responsible for achieving the goals and suggests that Maryland incorporate language to exempt local jurisdictions from civil suits, particularly given the uncertainty of resources and capacity to implement the WIP. The commenter points out that Maryland committed to having the measures in place by 2017 and 2020 to achieve the reductions, but asks if local jurisdictions are to follow the Maryland or EPA implementation timeline. He further asks if punitive measures by EPA would only apply to EPA's original target dates.

The commenter points out that many requirements will be incorporated to the National Pollutant Discharge Elimination System (NPDES) permits, making the local jurisdictions responsible for that portion of the reductions, but the commenter states, the responsibility cannot fall solely on the local jurisdictions to meet milestones/target dates just because a certain portion of the load falls within their jurisdictional boundaries since many reduction options are not within the local jurisdiction's authority to enable and/or enforce. The WIP should be clear that the State is committed to implementing all of the options that are within its authority.

Response: Some of the specifics, especially timelines for actions are provided in the final submission to EPA. Civil suits would only apply to permitted actions as they do now. The WIP is a plan, and as such, is not directly enforceable. One aspect of the WIP will be increased compliance and enforcement activity for enforceable requirements. EPA will not take action on the Maryland commitments, that is up to Maryland, but will take action if EPA's timelines are not met. Maryland is committed to providing flexibility with regard to what strategies are used as long as the nutrient reductions are met. Maryland will implement all of the necessary options that are within its authority.

Comment # 50.

Commenter: C32

The commenter states that the WIP has no substantive commitment to implementing or bolstering specific programs. For transparency of information, Maryland discloses an average amount of information, which is somewhat surprising because much of the vital information already exists as part of its annual enforcement and compliance report. For the strength of its programs, Maryland lists a menu of pollutant control options that will enable the state to meet 130 percent of its TMDL load allocation but does not commit to any of those options. The options are not accompanied by funding commitments or deadlines for implementation.

The commenter states that the WIP was "expressly written to solicit public comments on a wide range of pollution control strategy options.... [T]he options chosen to implement the needed reductions will be selected with the benefit of the public comments..." Public comment and input is undoubtedly valuable, but ultimately Maryland must make the tough decisions that protect the environment and lead to a restored Bay for present and future generations. The commenter feels that by leaving the particulars open to debate; Maryland is likely to receive less focused and less helpful comments.

The commenter states that the draft WIP meets the nitrogen and phosphorus allocations and reduces the sediment pollution to a level that is 26 percent below the target allocation. Maryland's final Phase I WIP should include the permitting and enforcement information already contained in its annual compliance and enforcement report to establish its baseline capacity. The final Phase I WIP should also contain contingencies for slow or delayed implementation of primary pollutant controls.

Response: Maryland has provided additional detail in its final submission to EPA and more detail will be added with greater programmatic and geographic specificity in Phase II.

Comment # 51.

Commenter: C40

Overall, the commenter is concerned with fairness in that 1) the data will lead to a fair distribution of effort among target sectors; 2) mandates will consider ability to pay and adverse economic impacts in setting goals; 3) actual impacts are measured and used to fairly account for net mandates, including positive efforts already underway and completed; and 4) sources of funding assistance are available in part based on local and regional need. The end result must be a fair assessment of the goals and costs assigned, and consideration of how unanticipated consequences can be avoided while making progress to help the Bay.

Response: (1) A fair distribution of effort is exactly the approach to making the sector allocations that Maryland used. (2) This will be further developed during Phase II as the State develops increased geographic and programmatic specificity at the local level. (3) Both implementation and actual water quality changes will be tracked. (4) Maryland hopes to achieve that end result.

Comment # 52.

Commenter: C40

The commenter (city of Frostburg) notes that that the WIP process is so far-reaching, affecting every aspect of development and land use, that the authority to plan, permit, enforce, and comply with new environmental requirements may cause it to lose its historic prerogative to act locally on matters important to its citizens. The implications of the TMDL mandate process further limits municipal autonomy and may create budget pressures that their tax base cannot reasonably accommodate.

Response: Maryland does not believe that the WIP will remove local authority to plan, permits and act on local matter. It will require that local planners no give significantly more attention to the impact of those plans on water quality, in accordance with the legal requirements of the Clean Water Act. Where an objective case can be made that the local tax base truly cannot support the requirements, Maryland anticipates that discussion will take place in an attempt to find reasonable solutions to objectively demonstrated problems.

Comment # 53.

Commenter: C40

The commenter is within a few miles of Pennsylvania, and about 25 miles from West Virginia. Both of these states have not been as forthcoming with appropriate measures in comparison with Maryland in the Phase I WIP per EPA feedback. In addition, Maryland has voluntarily moved its target dates up five years. The commenter asks that if neighboring states are not required to keep pace with Maryland, a development imbalance will be seen where Maryland communities will be at a disadvantage with regard to cost of building any new structure. While this disadvantage would not be permanent, it would change development patterns and lead to stagnation or even disinvestment in Maryland, particularly given the pattern of population loss in the region which makes justifying capital expenditures, including green factories, home building, or redevelopment projects in our urbanized areas more difficult.

Response: As part of its participation in the Chesapeake Bay Program, Maryland will work to ensure neighboring Bay states are adequately addressing WIP commitments. In addition, proposed EPA stormwater rules could help level the playing field among the Bay states.

Comment # 54.

Commenter: C88

The commenter states that requiring offsets for increased loads due to development will have serious implications for the local economy of Western Maryland. The commenter states that committing to development offsets in Western Maryland will likely result in an unintended consequence, as developers in this region will move to Pennsylvania and West Virginia where stormwater, for instance, is not regulated or is significantly lacking when compared to Maryland regulations. The commenter suggests that Maryland needs to encourage development where best management practices (BMPs) are regulated; not push development to non-regulated areas. The commenter suggests that the trend of developers moving a short distance to Pennsylvania or West Virginia to avoid development regulations is currently very real in Allegany County. The commenter suggests implementing development offsets will likely bring development to a halt in Allegany County.

Response: The Maryland WIP accounting for growth strategy is meant to discourage sprawl and to limit the per household nutrient impact of new development. By making development in non-sewered areas account for its higher per household nutrient impacts, the State should expect increased development in sewered areas, including the cities and Priority Funding Areas within Allegany County and Western Maryland. EPA requires all Bay states to account for growth in their WIPs. Ideally, this Bay-wide requirement will limit the dispersal of development into neighboring states. As part of its participation in the Chesapeake Bay Program, Maryland will work to ensure neighboring Bay states are adequately addressing WIP commitments. In addition, proposed EPA stormwater rules could help level the playing field among the Bay states.

Comment # 55.

Commenter: C43

The commenter states that the Phase I WIP timeline for adoption does not account for mid-term elections. Newly elected officials are not afforded the opportunity to adequately learn, understand, evaluate and provide comments to MDE by November 8, 2010, however will subject their constituencies to extraordinarily broad reaching and aggressive programs, requirements and taxes. Incumbents ineligible for re-election do not have the incentive to comment, and thus the WIP bypasses the political review process. The commenter requests that the draft WIP review period should be extended to provide adequate time for the new leadership the opportunity to participate.

Response: This is always a component of our political process and predecessors always make commitments that their successors may or may not wish to keep.

Comment # 56.

Commenter: C43

The commenter notes that the WIP speaks about the TMDL but does not specifically state what the total TMDL allocations for Maryland are. The TMDL allocations need to be clear and up front in the document.

Response: Allocation specifics are in the Appendices. Although Maryland's total allocations will not have changed between the draft and the final, there may be some changes within sectors in the final submission.

Comment # 57.

Commenter: C33

The commenter has several questions regarding information presented in Table 4.2 and the text on page 4-4. The answers to these questions will help local jurisdictions understand what is in the model.

- Does the baseline take into account practices currently in place?
- Are there actual loads or estimated?
 - If estimated, could the model identify a greater reduction than actually needed by a local jurisdiction if these practices were accounted for?
 - If they are estimates, and all current practices are not included, would the additional reductions count toward required reductions?
 - If the loads are actual, the baseline and the reductions reflect all current practices, which would reduce the amount of reductions needed.
- Is the TMDL is set for delivered loads or EOS or both?

Response: The baseline (2009 Progress) includes whatever was implemented and reported through 2009. The loads are generally estimated. Point source loads are based on permits and reports from the facilities so are generally accurate. Non-point source loads are estimated by the Watershed Model. The watershed model is calibrated to actual water quality data. It could over-estimate in some areas and under-estimate in others, but on average, provides a valid estimate. The TMDL is for delivered loads.

Comment # 58.

Commenter: C33

The commenter notes that Table 4.4 shows the percent reductions by source sector and that the WIP indicates that reductions will be spread across sectors in equal percentages. It seems that equal percentages are not necessarily the most effective way to distribute the allocations. The commenter suggests taking the percent reductions identified for each sector, evaluate the feasibility of each to make those reductions, and then make adjustments to reflect feasibilities.

Response: This will happen in Phase II.

Comment # 59.

Commenter: C33

The commenter notes that the WIP provides a discussion of the WIP Phase II effort and methodology, however more specific discussion is needed regarding the sub-allocation process by location and sector. The approach by the State seems reasonable and fair, however, the commenter states that even if the load allocation was calculated equitably, such reductions may not be achieved, which will be an issue for implementation.

Response: If the reductions cannot be achieved for a specific sector in a specific geographic area, that will be addressed in Phase II.

Comment # 60.

Commenter: C38

The commenter concurs with EPA's summary evaluation of the Maryland draft WIP and hopes that MDE, Maryland Department of Agriculture (MDA) and MDNR will address or incorporate in the final Phase 1 WIP.

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Response: Maryland has responded in its final submission.

Comment # 61.

Commenter: C38

The commenter notes that in Section 3 (*Accounting for Growth*) the WIP recognizes the importance of establishing "smart growth programs" and establishing offsets so that future growth and development does not result in additional pollution. The strategies outlined seem reasonable. Curtailing new septic systems and phasing out existing septic systems is just one of a number of good strategies incorporated in the WIP. As noted, offset requirements will also be vital to prevent overall increases in pollutant loading to the Bay and its tributaries. The commenter states that controlling development so as to avoid or minimize additional impermeable surface runoff through best management practices and runoff controls will also be essential.

Response: Agreed.

Comment # 62.

Commenter: C87

The commenter states that allocations should be achieved by using the most cost-effective techniques possible and then developing a system to share the costs across sectors equitably. The draft WIP fails to address the relative cost of nutrient removal across various sectors. MDE chose a common percentage approach from each source, which the commenter states is a significant oversight and recommends determining the most cost-effective way to reduce loads across all sectors and applying funding to those efforts that reduce costs as a whole. The commenter states Maryland will not be able to put this burden on new development in a disproportionate manner and still accommodate population increases and economic development. The commenter states that cost of nutrient removal from nearly all sectors will ultimately be borne by the consumer and it would be in state's best interest to determine the most cost-effective combination of techniques to clean the Bay.

Response: There was insufficient time to address cost issues in Phase I. The final Maryland submission to EPA did include significantly more information on costs. Phase II will address costs and cost effectiveness in more detail.

Comment # 63.

Commenter: C87

The commenter states that because of the complexities in the TMDL and the financial challenges, omissions, and limitations in the WIP, MDE should advocate for more time to vet, define and refine both the Phase I and Phase II WIPs.

Response: Maryland has requested more time for Phase II.

Comment # 64.

Commenter: C77

Overall, the commenter feel the WIP was a solid first draft of recommendations and strategies, but looks forward to significantly more detail and specifics about how target goals will be met in the Phase II process. Given that strong and enforceable WIPs are absolutely essential to the implementation of the Bay wide TMDL, the commenter hopes that this increased level of detail will provide an accurate and geographically specific roadmap that will help our local waterways in the Baltimore Metropolitan become cleaner and healthier on their way to meet the Chesapeake Bay. The

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commenter supports the comments submitted by the Center for Progressive Reform (commenter C32).

Response: It is a goal of Maryland's WIP to achieve local water quality improvements in the process of meeting the Bay restoration goals of the Bay TMDL. The Phase II WIP process will result in more geographically specific reduction targets and strategies to implement those reductions at the local area scale.

Comment # 65.

Commenters: C77, C89, C93, C100

The commenters suggest that in the WIP, Maryland should ensure that its contingencies are clearly identified and are coordinated with specific failures, are effective, have timely implementation deadlines, and have legal authority to require implementation. The commenters suggest these should be reflected in virtually every paragraph of the WIP.

Response: Element 7 of the WIP (Contingencies) was greatly expanded in the final submission to EPA.

Comment # 66.

Commenters: C77, C89, C93

The commenters state that public comment are valuable, but ultimately Maryland must make the decisions and it should not be up to the public to pick the final combination of activities from a list. Maryland has erred by leaving the particulars open to debate, and as a consequence is likely to receive less focused and less helpful comments.

Response: Maryland has made those decisions, informed by not directed by public comments. These decisions are reflected in the final WIP submission to EPA.

Comment # 67.

Commenters: C77, C89, C93

The commenters note that the WIP omits information previously included as part of its annual enforcement and compliance report, such as the permitting and enforcement information used to establish its baseline capacity. The final WIP should gather information from Maryland's annual report to resolve this problem.

Response: The WIP is plan for achieving reductions. To some extent, that information was incorporated into the Gap Analysis.

Comment # 68.

Commenters: C77, C89, C93

The commenters support the WIP in that it meets the nitrogen and phosphorus allocations and reduces the sediment 26 percent below the target allocation, however they are concerned with how the WIP handles sediments. The commenters point out that Maryland assumes that initial nonpoint sources strategies to achieve phosphorus goals will give a reasonable indication of whether the sediment goals are likely to be achieved because of the close relationship between sediment and phosphorus loads. The assumption that sediments will be automatically addressed by dealing with non-point phosphorus loads is not supported through scientific justification.

Response: Actually, in general, EPA believes that it is supported. Where it is not supported is if a jurisdiction plans to get most of its phosphorus reductions from point sources. Because phosphorus

adsorbs strongly to sediment, if phosphorus reductions are largely obtained from non-point sources, the sediment goal should also be attained. The model confirms that this is so for Maryland.

Comment # 69.

Commenter: C113

The commenter, in a letter to EPA, stated that every Bay state has fallen short of many of the metrics that demonstrate progress toward meeting milestones. Maryland fell considerably short of implementing the most significant nitrogen reducing milestone projects to which it had committed.

The commenter states that draft WIPs submitted by the states generally fail to address these NPDES permitting and compliance shortcomings or provide clear, definite measures to address them by accelerating achievement rates. Maryland's draft WIP is illustrative of this weakness and like other Bay states, Maryland has fallen behind the implementation rates necessary to meet the goals of the first of its two year milestone. For instance, among the gap closing strategies outlined in its WIP, Maryland plans to increase cover crops; however by the spring of 2010 it had only met 16 percent of its two year milestone goal. The commenter notes that Maryland's WIP provides no discussion of actions it will take to correct this shortfall or ensure reasonable progress toward its two year milestones.

The commenter notes that Maryland is alone (out of Pennsylvania, Virginia, and Maryland) in adopting regulations that hold stormwater discharges from new development and redevelopment to a clear, hydrologically based standard that requires full consideration and implementation of low impact development management practices. Though concerns remain about the strength of the standards, the State's commitment and ability to enforce compliance with these regulations, and their embrace by the regulated community, Maryland's revised stormwater regulations must be considered by the rest of the Bay community. In their comment letter to EPA, the commenter encouraged EPA to remain closely engaged with MDE staff in order to evaluate the effectiveness of these regulations, and to ensure that they provide measureable benefits in line with the expectations detailed in Maryland's WIP.

The commenter notes that NPDES permitting for CAFOs remain a critical tool for ensuring that these large livestock facilities are designed, operated, and managed in a manner. There appear to be significant shortfalls in NPDES permitting for CAFOs and the commenter notes that of the estimated 220 CAFOs in Maryland, only 7 were covered by the state's permit when EPA compiled permitting data in the summer of 2010.

The commenter notes that Maryland has done considerable work to develop its own trading policies and applauds Maryland's use of the local water quality standard of the TMDL as the baseline. The commenter supports Maryland's pioneering approach to WWTP, requiring upgrades such that WWTP in Maryland may become a source of credits, rather than a purchaser, as envisioned in other state WIPs.

Response: Maryland did not fall short of its nitrogen, it simply substituted alternative implementation to achieve its milestone. This flexibility to meet the nutrient reductions rather than implementation practice goals is critical and has been explicitly stated in the WIP. In its final submission to EPA, Maryland did add additional detail on milestones and contingencies. Maryland is making significant efforts to bring the new CAFO program fully up to all programmatic benchmarks, and in fact, when the CAFO program is combined with the MAFO program, Maryland significantly exceeds the regulatory requirements.

Comment # 70.

Commenter: C76

The commenter points out that the reliance on voluntary efforts has proven ineffective and needs to be strengthened through clear and firm required measures. Thus requirement of cover crops on fields where manure is applied as well as on land where crops such as corn require high levels of chemical fertilizer during the growing season with high residues remaining once the crops is harvested.

Response: The farm community in Maryland has always been willing to do more to improve water quality and protect their land. Maryland farmers have made good use of existing voluntary program to reduce 49% of the Nitrogen load going into the Bay since 1985.

Comment # 71.

Commenter: C67

The commenter points out that the plan presents desirable goals toward cleaning up the bay, yet it lacks specific details on how those goals should be accomplished. The commenter states the necessity of this part of the plan and requests that these details be added to the final plan before submittal to the EPA for implementation.

Response: This has been done.

Comment # 72.

Commenter: C59

The commenter does not understand why the draft Phase I WIP is being prepared prior to final adoption of the Chesapeake Bay TMDL by the Environmental Protection Agency. The traditional planning process requires that a plan be prepared and adopted prior to implementation. Since the TMDL provides the technical and philosophical foundation for the WIP, it would make greater sense to complete adoption of the TMDL before determining what actions are needed to implement it. This problem will be compounded if MDE accepts new allocations from EPA after the public comment period has closed. The commenter states that following the traditional planning process would also give local governments more time to consider the actions necessary to comply with the TMDL and a clearer understanding of what level of compliance is truly necessary to achieve.

The commenter (City of Cumberland) states that the expedited process for preparation and adoption of the Phase I WIP leaves them with inadequate time to fully understand and evaluate the implications of the proposed implementation strategies. The City has very limited staffing that has been stretched to the limits of its work capacity by recent budget cutbacks resulting from the national recession. While many of the issues addressed in the Phase I WIP may be reevaluated in the Phase II WIP, it is difficult to understand the benefits that can be achieved by rushing to adopt a Phase I WIP that may be radically altered in the Phase II WIP because there was inadequate time to thoroughly evaluate the Phase I WIP implementation strategies. Such a document may set a poor benchmark for the Phase II process.

Response: The WIP provides “reasonable assurance” for the TMDL and so must be developed in conjunction with and submitted with the TMDL. The City of Cumberland will have the opportunity to participate in Phase II, which will provide a much longer opportunity for interaction discussion and revision than did the Phase I process.

Comment # 73.

Commenter: C59

The commenter asked what technical assumptions were made in assigning the load allocations in the draft Phase I WIP, to what degree were economic impact scenarios to local governments considered in determining the various implementation strategies, and to what degree was ambient airborne deposition of nutrients taken into consideration in assigning the load allocations.

Response: Load allocation were based on the existing point source strategy (.4 mg/L total nitrogen * design flow) for point sources and an equal percentage reduction of the reducible load for non-point sources (stormwater, septic and agriculture). The reducible load is the difference between the “no action scenario (no BMPs with 2010 land use) and the maximum feasible reduction (E3 or everything, by everyone, everywhere). Economic impacts were not considered in Phase I, but will be an important part of Phase II. Atmospheric deposition was fully addressed by EPA.

Comment # 74.

Commenter: C57

The commenter states that there are a number of limitations that make review of the document difficult; particularly there needs to be a better analysis of costs for each component of the WIP and the analysis needs to include phosphorus throughout the document.

Response: In general, most strategies (with the notable exception of septic systems) address both nitrogen and phosphorus. When the nitrogen-based strategies are entered into the model, it automatically calculates the phosphorus reductions. EPA scenario runs assure that the phosphorus goal will be achieved, or EPA will not consider the WIP submission to be acceptable. Final reductions were based on input deck submission subsequent to release of the draft TMDL. In the final submission the Maryland goal of 70% of the required final reductions was achieved.

Comment # 75.

Commenter: C57

The commenter refers to page 5-19 and states that only limited information is provided on reduction of phosphorus and sediment in chapter 5, reduction of nitrogen is used as the measurement factor in achieving the reductions needed. The lack of information on phosphorus reductions makes it difficult to determine if the phosphorus reduction goal will be achieved. The public will not be provided an opportunity to comment on the phosphorus reductions, as there will only be generated in the final model run.

Response: See response to comment 74.

Comment # 76.

Commenters: C65, C70

The commenters state that Mattawoman Creek exemplifies why stronger measures are needed because, in spite of twenty years of warnings by government agencies and the public, its famous fish communities are declining. The Mattawoman Creek provides an ideal case for testing the more detailed implementation measures that are needed to strengthen Maryland’s WIP, because it already has an approved TMDL for nitrogen and phosphorus that is not being enforced. The commenter notes that the Army Corps of Engineers predicts there will be a 50 percent increase in nutrient pollution without implementation measures.

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Response: The commenter presents a legitimate concern. Maryland will seek solutions that can best address these challenges during Phase II and successive legislative sessions.

Comment # 77.

Commenter: C75

The commenter states that it would be practical to have meetings with each county prior to finalization of the Phase I WIP even though it likely means extending the timeline by a couple months. Counties have been asked to provide comments on your draft Phase I WIP without any education provided from the State. There is no doubt that there are many small municipalities throughout the State that do not understand the implications or requirements that will come from a plan this comprehensive without some advisement from the State. Under the Chesapeake Bay 2 Year Milestone Plan on the MDE website, Governor O'Malley is quoted as stating, "We know, of course, that these ambitious plans will only be successful with the full commitment and involvement of our state agencies, county governments, municipalities....And to ensure these partners are fully engaged, we are bringing both technical and financial resources to them..." The commenter believes that local governments are not being fully engaged at this point, early on in this process. If strides are not made to heal this disconnect, the commenter worries what chances the Plan will have of future success, especially when it comes to working closely together to develop the Phase II WIP.

Response: Given the time frame, Maryland made every effort to involve all local governments, including separate, smaller meetings with local government officials prior to regional public meetings. However, local governments, particularly counties will have both the opportunity and need to be more involved in Phase II. Current plans call for each county to have a liaison devoted to them through the Phase II process.

Comment # 78.

Commenter: C45

The commenter asks Maryland to remember that in order to achieve WIP allocations, we must all work cooperatively towards our industry goals. Mandates and unreasonable regulation will not bring about the water quality improvement you seek, but rather, they will stymie the innovative nature of farmers and deter investment in technology for the future. Similarly, farmers working diligently to comply with current regulations must be assured that third-party enforcement through litigation will not be the default means by which future progress is measured.

The commenter states that Maryland farmers want to remind everyone that they are producing food, an essential item. The economics of producing food are such that farmers cannot pass on the cost of additional environmental requirements when farmers sell their products. Farmers receive market price on the day our crop is ready.

The commenter points out that farmers are concerned they will end up paying for practices in all sectors. They will make significant investments for agricultural BMPs, but will also have to pay for mandated septic system requirements/upgrades.

The commenter states that farmers are concerned about meeting their Bay WIP goals while at the same time increasing production to feed an increasing world population. The population is expected to increase by one-third by 2050. Most people in developing nations are subsisting on less than \$3 per day. The commenter states that if the cost of food production here increases and the volume of food produced decreases, we cannot expect to feed the hungry around the world.

Response: The WIP allocations were set based upon an equal level of effort by all sectors. Each sector is responsible to meet their allocation. Because the agriculture community has already

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provided a significant reduction in nutrient loading, the g Ag WIP goals that remain are achievable using current technologies and given appropriate resources.

Comment # 79.

Commenter: C47

The commenter expresses concern about the implementation of controls required to address pollution loads from all sources discharging to the Bay watershed. Of particular concern are air borne pollutants and the associated fiscal challenges and commitments from all levels. The commenter states that the 45 day comment period limits the level of detailed review and coordination possible and suggests an extension of the comment period to provide time for a more comprehensive analysis.

Response: The comment period could not be extended due to settlement of litigation. Air deposition has been addressed by EPA, and Maryland has paid particular attention to try and get every possible credit out of the Healthy Air Act. More opportunity for interaction and revision will occur during Phase II.

Comment # 80.

Commenter: C47

The commenter, WSSC, has reduced pollutant loading to the Bay from its WWTPs. The commenter is concerned about addressing current and future water quality challenges without sharing the burdens equitably among all sources of water quality impairment which impact the Bay. To move forward, the commenter suggests a comprehensive approach that allocates federal, state, local and nongovernmental resources efficiently and mandates equitably to maximize pollution reductions. The commenter states that the final Bay TMDL must provide a framework for addressing all sectors of pollution on an equitable basis to meet the desired

The commenter is committed to proceeding with the upgrades to their WWTPs to meet the requirements of the Draft Bay TMDL as specified in the WIP and to providing the financial support necessary to realize those improvements and to providing an equitable share of the cost of the Blue Plains WWTP upgrade to ENR consistent with the funding formula for the Blue Plains users in the Intermunicipal Agreement that govern those commitments.

Response: Maryland believes that these issues have been resolved in the final submission.

Comment # 81.

Commenter: C63

The commenter notes that while the WIP makes a substantial step forward by requiring more mandatory and enforceable pollutant reductions, it still places significant reliance on some voluntary measures. The commenter is concerned that the previous voluntary approaches have led to only modest gains in water quality and that a more rigorous approach is necessary and suggest that if the WIP still include voluntary approaches, it should set out alternative options for State enforcement should this voluntarism not result in the needed water quality improvements.

The commenter is concerned that the WIP does not spell out the circumstances under which the State would commit to these options. The commenter suggests the following for the WIP:

- More concrete commitments to funding,
- Clearer deadlines for implementation, and

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- Inclusion of contingencies should some of the proposed options be delayed or prove to be impractical. For example, the WIP should require cover crops on fields where manure is applied or corn is grown.

In sum, the commenter suggests that the WIP require enforceable limits on all sources of pollution, and provide a timeline and details regarding how the State will fund, implement, and enforce every proposal, without placing undue burden on small family farms.

Response: These issues have been addressed in the final submission, in response to these comments and those by EPA.

Comment # 82.

Commenter: C74

The commenter notes that the draft WIP strategy to reduce nutrient loads is based on technical criteria and does not consider economics or efficiency of reducing pollutants. The commenter is concerned about constrained funding and the feasibility of implementing all of the measures needed to meet the TMDL limits. The commenter suggests that to realistically implement enough measures to meet TMDL limits, MDE should consider economic efficiencies as well as technical effort to reduce nutrient loads.

Response: Funding is a critical aspect of Phase II.

Comment # 83.

Commenter: C92

The commenter requests clarification as to why WWTP and combined sewer overflows (CSO) total suspended solid (TSS) loads show a dramatic increase. The commenter expresses concern because WWTP suspended solids numbers have been decreasing for years. The commenter request that if the major contributor is CSOs, the two sources should be shown separately.

Response: WWTP TSS loads increase because final target loads are based on design capacity not current flow. The CSO contributions go down from baseline loads. They are not a major contributor and do not increase as with WWTPs.

Comment # 84.

Commenter: C84

The commenter notes that the WIP includes a large list of practices which can be used to meet the goals of the TMDL requirements, but does not prioritize the practices. If public input is to be used to develop the prioritization plan, there needs to be more direction on cost effectiveness. If cost effectiveness is used to help prioritize then there needs to be some understanding of who pays for the implementation and how. The commenter suggests that agricultural practices need to be supported with public money, stormwater retrofits should be paid for with a fee based upon impervious area, and new stormwater management should be paid for the development industry.

Response: In the final submission, all practices included will need to be implemented. Implementation goals are generally included. Cost will be more fully addressed in Phase II and prioritization in development of the milestones.

Comment # 85.

Commenter: C84

The commenter expresses concern that for recreational users, such as fishermen, there is no target reduction for sediment in the TMDL. The WIP assumes that sediment reductions will be met by meeting phosphorous reductions. A detailed look at this assumption will show that although it may be valid for agricultural sources it is without basis for urbanized and urbanizing areas. Stream instability is a major source of sediment delivery to stream channels in these developed watersheds and phosphorous reduction will most likely not be focused on this source of sediment. A serious consequence of this omission will be the undervaluing of stream restoration as a strategy for restoration. Many small streams in developed areas suffer from significant instability and are major sediment sources. The commenter states that since there is no specific target for reduction of sediment which can be a major and needed benefit of stream restoration there will be no incentive for this practice.

Response: Both agricultural and stormwater controls included in the strategy will address sediment concerns. The model confirms that Maryland will significantly exceed its sediment reduction requirements.

Comment # 86.

Commenter: C78

According to press reports, some jurisdictions and business interests want EPA and the State to weaken and delay implementation of the TMDL. The commenter strongly opposes these sentiments, and encourages EPA and the state to resist those pressures. The commenter is proud that the state is taking a leading role in the effort to restore this national treasure to its former glory and protect it for future generations.

Response: There will be no delays.

Comment # 87.

Commenter: C53

The commenter states that cost-benefit considerations, and hence assessments of true feasibility, seem largely absent from the WIP, and should be addressed. Evidently, the State of Virginia intends to conduct a cost-benefit study to inform sector allocations during the Phase II WIP process, and Maryland should do the same.

Response: This will happen in Phase II.

Comment # 88.

Commenter: C53

The commenter states that the WIP should provide additional reasonable assurance that agricultural load allocations can be met so as to avoid federal imposition of backstopping measures on regulated sources such as municipal separate storm sewer system (MS4) stormwater permittees. This is all the more important as the existing State inspection and accounting program for agricultural BMPs is inadequate, and more resources will certainly be needed to attain reasonable assurance of implementation.

Response: Additional reasonable assurance for agriculture was provided in the final submission.

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Comment # 89.

Commenter: C53

The commenter points out the potential that the WIP might create pressure for lower density development in potential infill areas with existing low imperviousness because nutrients are lower for lower imperviousness levels. This could potentially make it harder to increase densities where it is desired. It is not clear that the WIP would actually discourage redevelopment and densification, but the WIP process is complicated and avoiding unintended negative consequences is important.

Response: The WIP envisions a 2-year process to further develop the accounting for growth strategy. As part of this process, potential unintended consequences, implementation mechanisms, and methods to improve the strategy will be explored. In response to public comments, Section 3 of Maryland's final Phase I WIP submission provides more detail on tasks to complete and recommended options to explore to finalize the accounting for growth strategy.

Comment # 90.

Commenter: C53

The commenter states the need for the WIP to look at the bigger picture. There is a need for a systems-based approach. The commenter states there are and will be multiple tipping points, especially with other TMDLs and with other environmental goals such as greenhouse gases and energy-related concerns. We need to avoid moving away from one goal in pursuit of another. It may be difficult, but the work towards all of the goals needs to be integrated so they are mutually supportive.

Response: These issues will be addressed through ongoing monitoring. Maryland believes that the WIP, in concert with other programs such as anti-degradation, Smart Growth, permits and so forth does provide a comprehensive approach.

Comment # 91.

Commenter: C82

The commenter points out that the goals for phosphorus reduction for the urban sector exceed the goals for nitrogen reduction, yet most of the goals in the WIP are stated in terms of nitrogen. This makes quantifying the effort to meet these goals impossible.

Response: See response to comment 74.

Comment # 92.

Commenter: C82

The commenter points out that NPDES MS4 permits are listed in the document as both point and nonpoint source, and this should be made consistent. This is of particular importance to Section 6.1 *Point Source: Tracking and Reporting* because it is unclear if NPDES MS4 permits will be required to complete Discharge Monitoring Reports (DMR) and Monthly Operating Reports (MORs).

Response: This has been addressed in the final submission.

Comment # 93.

Commenter: C106

The commenter requests that Maryland make improvements as EPA has recommended. While the draft offered a menu of possible measures, the final plan should commit to executing a specific set of

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proposals that together will achieve the necessary pollution reductions. The final WIP should explain how every proposal will be funded, implemented, verified, and enforced.

Response: This has been addressed in the final submission.

Comment # 94.

Commenter: C107

The commenter applauds the leadership in this unprecedented opportunity for clean water. The draft plan was promising, but the commenter urges for a strong final plan. The commenter included a petition, signed by 434 persons, stating that the final plan should include these strong proposals from the draft: revising the question of when farmers should put manure on their land, updating more WWTPs, retrofitting up to half of covered surfaces in the largest counties, and requiring upgrades of stream-side septic systems throughout the state. The plan should include more mandatory measures rather than continuing our over-reliance on the voluntary approach. For instance, the plan should require cover crops on fields where manure is applied, to help manage the 600 million pounds of chicken manure created annually in Maryland. The plan should require enforceable limits on all sources of pollution, and it should provide details on how the state will fund, implement, and enforce every proposal.

Response: This has been addressed in the final plan that has more details for agricultural reductions and well as timelines and other commitments.

Comment # 95.

Commenter: C98

The commenter believes that the success or failure of the WIP falls upon the present administration's ability to:

- Establish reasonable, science-based measures that limit allowable pollution from various sources and throughout the water cycle and the aim at addressing the right objective functions,
- Enforce existing laws and regulations meant to protect the bay,
- Innovate new smart, clean and green approaches and tools that by mimicking and working with nature create savings and multiple benefits for our communities and the Bay's health,
- Employ science-based adaptive management to recalibrate goals as new data, tools and learning come on line,
- Create the holistic and integrated tools and policies necessary to reach targets and goals for overall pollution prevention and bay restoration,
- Solve problems as close to the source as possible and employ reuse and closed loop systems for water, energy, land, solid waste, and chemical pollution,
- Engage a variety of finance streams that will unlock resources for pollution prevention and clean up efforts, including:
 - WENRSCOs (Water, Energy, Natural Resource Savings Companies)
 - CWSRF (Clean Water State Revolving Fund), especially the Green Reserve
 - DWSRF (drinking water source protection)
 - RUS (Rural Utility Service Grant)

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- Maximum leverage of public and private bond markets
- Stormwater and Sewage fees
- Development offsets
- Green Building
- Federal Agency spending on Green Buildings, transportation, energy and other projects with federally funded support.

Response: These comments were considered in development of the final submission.

Comment # 96.

Commenter: C97

The commenter (a group of senior Bay scientists and policy makers) has concluded that after 26 years of effort, the formal Bay Program and the restoration efforts under the voluntary, collaborative approach have not worked and current efforts have been insufficient and are failing. Water quality is declining or not improving in much of the watershed. An EPA Bay program analysis concluded that the Bay was severely degraded and that under current programs, it would be 2034 before the agreed upon nitrogen reduction goal was achieved and 2050 for the phosphorus goal.

Because of this failure, the commenter urges Maryland to transition from the voluntary collaborative approach to a comprehensive regulatory program that would establish mandatory, enforceable measures for meeting the nutrient, sediment, and toxic chemical reductions needed to remove all Bay waters from the impaired waters list. These measures should be under existing laws and regulations, as well as new ones necessary to achieve the necessary reductions. These measures must be undertaken in a definitive, regulatory manner with enforceable deadlines with the certainty of penalties

The commenter states that Bay states have repeatedly failed by wide margins to achieve the agreed upon necessary reductions, particularly from agriculture and from development. This is due to a failure to adopt the necessary measures to accomplish these reductions. The commenter supports increased federal funding for direct, verifiable reductions from nonpoint sources, and states that the current mostly voluntary approach to agricultural pollutants, especially animal waste, has not and will not succeed without mandatory, enforceable regulations. At best, the agricultural sector has only achieved one-half of the agreed-upon nutrient and sediment reductions after 26 years of funding enhancements. Further, pollutants flowing from developed lands are the only major pollution source that had been increasing, not decreasing, and it is clear that the states are not doing all that is necessary to control development and the resultant significant increases in impervious surfaces. There also has been a failure to retrofit existing developed areas for better stormwater control as called for in the Maryland Tributary Strategies.

The EPA's Inspector General issued a report in September 2007 noting that impervious surfaces added over the previous five years resulted in an annual increase of one million pounds of nitrogen, impeding Bay restoration. In July 2008, researchers with the EPA's Inspector General Office cited several serious problems hindering the Bay's cleanup, including uncontrolled land development and the limited implementation of agricultural conservation practices. The Inspector General's Office noted that in some cases, there are no clear regulatory programs to control these major nonpoint sources of pollution.

The commenter requests that Maryland continue to support the TMDL process and include in the WIP the budgetary, regulatory, and enforcement actions necessary to restore the Bay. These include:

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1) fully support the establishment of TMDLs to meet the current schedule for TMDLs to be finalized by the end of this year and 2) submit a Phase I WIP that includes the measures detailed in their comment letter to accomplish load limits.

Response: This has been addressed in the final submission, which both adds regulatory commitments and retains, but provides contingencies and timelines for some of the voluntary programs.

Comment # 97.

Commenter: C103

The commenter would like to see the final WIP incorporate enforceable limits on sources of pollution and details and timelines on how the state will fund, implement, and enforce the plan.

Response: The final submission included significantly more attention to details, timelines and contingencies.

Comment # 98.

Commenter: C94

The commenter notes that allocating between point and nonpoint sources and among sectors assumes that achieving the TMDL can be done by meeting the allocations. The commenter states this must be checked against the required total TMDL reduction and the capacity of nonpoint sources to meet their assumed load reduction. The commenter states that Worcester County through the Watershed Restoration Action Strategy process found that in watersheds with 40, 50 and 60 percent nutrient reduction requirements the TMDLs could not be met when the point source allocation was combined with the 3E (everything, everywhere at top efficiencies) model scenario for nonpoint BMPs. The commenter states that it appears the initial allocations were based on the hope that the TMDL could be achieved with the assumed allocations; this assumption proves in some cases to be false. The commenter suggests that the use of the allocation notion be abandoned in practice and point and nonpoint scenarios be substituted as the guiding concept. The commenter states that point source allocations imply vested rights where in reality none exist. The law on the other hand clearly seeks to achieve the TMDL reduction. The commenter suggests that the allocation concept has created and will continue to create unnecessary confusion. The commenter suggests altering the TMDL lexicon to deemphasize the allocation notion and focus on TMDL achievement.

Response: The submitted WIP is a statewide approach, which can be met statewide. If there are specific locations where the allocations cannot be locally, this will be addressed in Phase II.

Comment # 99.

Commenter: C96

The commenter notes an analysis conducted by the Hampton Roads Planning District Commission found that 96 percent attainment of the TMDL chlorophyll standard would cost its member jurisdictions \$9 billion while achieving the remaining 4 percent of improvement to reach the required 100 percent attainment would increase the cost to \$33 billion. The TMDL model now assumes 99 percent attainment of all possible pollutant reduction practices without regard to cost, feasibility, or impact on other public policy goals. If this is the approach taken in the WIP, local governments in Maryland will be faced with mandates that force the spending of large amounts of money to achieve immeasurable improvements to water quality. The commenter requests that the WIP should be expanded to include cost and feasibility analysis.

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Response: This is one reason why the TMDL implementation is being phased, with 60% (or 70%) of the total required implementation to be met by 2017 and the last 40% (30%) by 2020 (2025). By Phase III, it is hoped that Maryland will have either more effective and cost effective strategies or that other solutions will be found to reduce the cost.

Comment # 100.

Commenter: C94

The commenter suggests that sector target loads incorporate cost effectiveness of mitigation actions. The commenter states that across the board reduction percentages will result in reduced pollution reduction for the available budget/funding. The commenter suggests the strategy focus on fully implementing the least cost action per unit of pollution reduced until the opportunity for this action or the budget is exhausted. If after the most cost effective action is fully implemented and funds remain, then the next most cost effective action should be undertaken. The commenter states this strategy will maximize pollution reduction for constrained mitigation budget and staff resources. The commenter states that this approach requires:

- Detailed assessment of BMP performance efficiencies. The commenter hopes a narrowing of the range of potential performance will result.
- Detailed inventory of opportunity for each BMP's implementation, e.g. linear feet of unbuffered riparian areas, acreage of additional cover crop, etc.
- Cost benefit analysis of BMPs to assess the true cost per unit of pollution reduction. The commenter states this approach accounts for the time value of money and can place BMP analysis on an equal footing when individual actions have disparate capital, operation and maintenance cost streams and project life spans.
- Dispersion of the results of above results with a graspable explanation of this strategy's use.

The commenter states the equity among sources concept will consume the available funds with a less than maximum pollution reduction.

Response: Considerations of cost effectiveness in local area strategies selection will be part of the Phase II WIP process.

Comment # 101.

Commenter: C88

The commenter states the load allocations and the plan for meeting the water quality standards are based on MDE staff assumptions. The commenter states very little science appears to have been involved in the decision to impose certain limits in certain sectors. The commenter suggests benefit-cost analyses should be performed and the results should be weighed as part of the limit-setting processes. The commenter suggests opportunity costs should be incorporated as well.

Response: The load allocations are based on the model, not MDE assumptions. The model has been vetted by the Bay's Scientific and Technical Advisory Committee. Cost-benefit issues will be addressed in Phase II.

Comment # 102.

Commenter: C101

The commenter notes the WIP states that “The table of strategies presented. . . . will be selected with the benefit of the public comments received.” The commenter does not think that the format was sufficiently developed so that the public could make an informed judgment about what was being presented, and by definition provide comment that would have meaning for those individuals or entities that will adopt the strategies to be implemented. The commenter states that there is no cost data that would give the public some idea of how much each form of strategy costs per pound of targeted improvement. The commenter states there is very little, if any, assessment of the marginal efficiency of investment in any of the proposed strategies. The commenter asks how the public is to comment on the approaches if no clear presentation is provided on what each approach might cost and what the rate of return (pounds removed) per dollar.

Response: Many people were able to provide objective, valid comments on the information provided, although several people submitted comments similar to this. The final submission included significantly more information on costs, and cost effectiveness will be more intensively addressed in Phase II. Phase II will also provide an opportunity to modify the extent to which strategies are implemented based on cost effectiveness, as long as the nutrient goals are met. Many of the strategies will need to be implemented to reach the goal, regardless of cost effectiveness.

Comment # 103.

Commenter: C101

The commenter states that the draft WIP sets a goal of achieving 70 percent of the target reduction for regulated urban pollutant loads by 2017. The commenter notes this is exclusive of discharges from WWTPs and that the chart provided on page 6 of the Executive Summary indicates that a 1 million pound reduction in nitrogen pollution from regulated urban runoff is required by 2020, with 70 percent of that goal will be achieved by 2017. The commenter states the most significant proposal for achieving that goal contained in the *Summary Table of Actions* is to require SHA and counties to install storm water management controls at 30 percent, 40 percent or 50 percent of existing impervious surfaces without controls. The commenter does not believe that it will be possible to identify and generate the necessary funding for any of these levels of retrofit much less design and install them by 2017. The commenter suggests a more realistic analysis of actual pollutant sources and cost effective controls is required to meet the 2020 reduction targets much less those set for 2017.

Response: Feasibility is somewhat site specific and that will be addressed with the greater geographic specificity to be developed in Phase II. As a result of discussions during Phase I, greater flexibility is available to meet the stormwater goals with non-structural, and nutrient-reducing approaches beyond the normal tool box of stormwater controls.

Comment # 104.

Commenter: C94

The commenter asks if the cost of implementing the necessary volume of BMPs been calculated. The commenter recommends references to funding be detailed to the amount of available funds and then compared with the estimated cost of BMP installation. The commenter states a resulting funding gap analysis should be included in the WIP.

Response: Costs and funding gaps have been more completely addressed in the final submission.

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Comment # 105.

Commenter: C110

The commenter notes that the WIP outlines several goals for BMP implementation and discusses options for funding; however the commenter notes there are no cost estimates for implementation of the BMPs. The commenter suggests it would benefit the process to understand the financial gap in funding for the BMPs envisioned in the WIPs.

Response: Costs and funding gaps have been more completely addressed in the final submission.

Comment # 106.

Commenter: C110

The commenter recommends that a gap analysis be conducted, as well as a cost-benefit analysis of implementation of the BMPs envisioned in the WIP.

Response: Costs and funding gaps have been more completely addressed in the final submission.

Source Sectors—General

Comment # 107.

Commenter: C109

The commenter states that wildlife contributions to water quality are significant and should be appropriately identified. The commenter notes that their contributions are most likely included in agriculture and forest areas. The commenter suggests that Bay pie charts include a nutrient allocation from wildlife, noting that while the wildlife will not have reductions, another sector will be required to make the necessary reductions.

Response: There have been a few discrete urban and suburban non-tidal impoundments with high concentrations of tame and semi-tame waterfowl that have shown evidence of negative water quality impacts from the localized non-migratory waterfowl populations. However, there is no substantial research at this time affirming that wildlife contribute negatively to overall water quality, let alone in quantities deemed “significant.”

Comment # 108.

Commenter: C32, C77, C89, C93, C100

The commenter states, Maryland included some information in the draft WIP about its permitting program, such as 526 NOIs for facilities that are seeking coverage under the CAFO program as commenter 32 points out, but failed to disclose information about existing facilities without permits or existing facilities with expired or administratively continued permits. Commenter 32 notes that, much of this information already exists in Maryland’s FY 2009 Compliance and Enforcement Report, so MDE should collect this information and present it in the final WIP. The commenters state Maryland also failed to establish deadlines, timelines, or qualitative goals for updating and reissuing expired and administratively continued NPDES permits.

Response: Costs, funding gaps, and timelines have been more completely addressed in the final submission. The Phase I WIP constitutes a statewide plan moving forward, there is no basis for including or referencing the Enforcement Report that is generally available.

Source Sectors—Agriculture

Comment # 109.

Commenter: C93

The commenter states that significant phosphorus loading may be coming from agricultural fields on which poultry litter is routinely spread.

Response: While soil samples for phosphorous in some areas of the state show high levels current water quality monitoring data utilized in the Chesapeake Bay Model have shown only minimum increases in phosphorus impacts to water quality.

Comment # 110.

Commenter: C32

The commenter notes that Maryland should be commended for having a CAFO NPDES program that is up-to-date with federal regulations, but it must focus on issuing permits to all the facilities that qualify as CAFOs and work towards ensuring compliance with the permit terms. By not disclosing the total number of CAFO facilities, how many of those have permits and how many still need permits, and when all the facilities that require permits will have them, Maryland's draft WIP undermines the assurance that the NPDES program provides. In the final WIP, Maryland should provide a timeline or schedule for issuing CAFO NPDES permits.

Response: Although not specifically included in the WIP, that information has been provided to EPA. The required comprehensive nutrient management plans (CNMPs) are being produced by Natural Resources Conservation Service (NRCS) and private consultants. They should all be complete by 2012 at which time the permits will be issued.

Comment # 111.

Commenter: C33

The commenter notes that on page4-3, the third paragraph implies that converting farmland for development is beneficial for load reductions. The commenter requests the text be reworded to clarify the statement so that it is not misinterpreted.

Response: The text has been revised in the final document.

Source Sectors—Municipal dischargers

Comment # 112.

Commenter: C24

The commenter states that Chapter 5 of the Maryland Watershed Implementation Plan provides various best management practices for wastewater utilities/operators to reduce nitrogen, phosphorous and sediment including biological nutrient removal (BNR)/ENR treatment plant upgrades and CSO/ Sanitary Sewer Overflow (SSO) elimination. He asks that if a sewer pipe is broken or has a hole, can a municipality be credited for reducing nutrients by repairing or replacing the broken pipe segment. If so, how will the credit amount be quantified?

Response: Since this is an illegal discharge, no credit can be given for correcting it.

Comment # 113.

Commenter: C71

The commenter states that the WIP adds a load reduction associated with CSOs but while mentioning the numerous activities to eliminate CSOs and SSOs through consent decrees etc., the only load reduction mentioned is related to the Cambridge and Federalsburg CSO abatement. The commenter states that unfortunately the Chesapeake Bay Watershed Model is not accurate enough to distinguish between nutrient loadings from CSOs/SSOs, illicit discharges, lawns, and other urban sources. This is a problem because a major source of the urban nutrient loads in many communities is attributed to SSOs and illicit discharges from the sanitary sewer system. The underlying assumption of MDE and EPA is that the current activities to eliminate SSOs and CSOs under various consent orders will address the major sources. This is true with respect to large wet weather discharges; however, MS4 programs are finding a tremendous nutrient load from the minor dry-weather leaks and illicit discharges that occur every day in urban areas.

The commenter requests that MDE and EPA allow municipalities to take credit of load reductions associated with SSOs so long as they are quantified through monitoring.

Response: SSOs are captured in the calibration of the model rather than attributed to individual sources. As such releases are corrected, the results should be seen in the water quality monitoring and can be credited in that manner.

Source Sectors—Industrial dischargers

Comment # 114.

Commenter: C102

The commenter states the WIP is grossly deficient if pollution caused by big businesses is not included since they discharge a greater amount of pollution to the watershed as concentrated point sources. The commenter states there are eleven nuclear reactors, Dominion Cove Point LNG, and other Power Plants (such as Mirant's power plant at Chalk Point) that discharge water pollution and radioactive materials and air pollution directly into the Bay. The commenter asks why these facilities have been excluded from the WIP. The commenter states MDE has records of the pollution these point sources cause and these polluters cause dead spots in the Bay and should be in the WIP.

The commenter states the WIP lacks details on how cars and runoff from farms will be implemented and enforced by the state and that reducing those sources will not be enough. The commenter states that power plants are the worst offenders of water pollution. The commenter asks what the state is doing to get these industries to reduce loadings. The commenter states if the Bay is going to be cleaned up, the most effective way is to get the point sources to reduce their pollution. The commenter has proof of this, and asks the state to contact the commenter if the state needs help finding documentation.

Response: Actually nuclear reactors do not discharge nitrogen or sediment. In some cases there can be a phosphorus discharge and this has been included. They do not discharge nitrogen to the air like coal plants do. They do not discharge radioactive materials, but those are not part of the TMDL anyway. Reduction from mobile sources (cars) will be achieved through implementation of the California cars requirements that begin in 2013. Point sources are in fact the most important part of the strategy and are reducing more nutrients, faster, than any other sector.

Source Sectors—Onsite wastewater treatment systems

Comment # 115.

Commenter: C2

The commenter asks if MDE can plan a legal way to mandate sewer repairs for failing septic systems in non-Priority Funded Areas (PFA) so sewer extensions will be approved for only repairs. This would prohibit infill until county plans incorporate these areas into the PFA areas. The commenter mentions that funding can always be used as an incentive and asks that, since the legal opinion we have states we cannot present a plan that eliminates the infill, when and where would logic prevail? The commenter's current understanding is that the infill will not need wetland review, storm water management plans and potentially be allowed to build on smaller lots then prior to perks failing.

Response: In response to public comments, the Phase I WIP includes a State commitment to investigate several potential options related to meeting the septic tank target load. One option is use of the Bay Restoration Fund to connect properties using septic tanks to an existing WWTP achieving enhanced nutrient removal (ENR) treatment, where it is cost-effective to do so and where sprawl growth will not be encouraged.

Comment # 116.

Commenter: C87

The commenter points out that on page 2-5, the WIP states, "There are approximately 430,000 septic systems in Maryland, with 51,500 in the Chesapeake Bay and Coastal Bays Critical Area. Of these, 418,500 are in the Bay Watershed and 46,300 are in the Chesapeake Bay Critical Area, 134,800 within 1,000 feet of a perennial stream, and 237,500 are located outside 1,000 feet of the perennial stream buffer." The commenter notes that "perennial stream" is not defined. This is a potential issue because USGS maps tend to underestimate the number and extent of perennial streams in non-Coastal Plain areas, where NRCS soil survey maps tend to overestimate the same factors. Therefore, if the WIP uses USGS information as a base for this claim, it may underestimate the number of septic systems within 1,000 feet of a perennial stream. The commenter requests a clarification of "perennial stream" to understand potential implications.

Response: Perennial streams will be defined in the water quality standards before the end of the year. USGS coverages were used uniformly across the Bay Watershed because it is the most consistent coverage available.

Source Sectors—Urban (including MS4s)

Comment # 117.

Commenter: C26

The commenter finds the discussion and table on page 2-11 of the WIP difficult to understand. If the goal is to reach 90,000 acres by 2011, what is the basis for 129,541 acres listed within the table and how does the table compare to the 65,780 acres to date mentioned in the text?

Response: The 129,541 acres are the 2020 goal. Of those acres, as of 2008 39,541 acres have been restored, leaving 90,000 yet to restore. The 65,780 acres is the current status between 53,815 completed by 2009 and 78,856 planned for completion by the end of 2010.

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Comment # 118.

Commenters: C55, C81

The commenters state that at least 50 percent of all fertilizer use in Maryland is non-agricultural. This significant source of nutrient pollution is applied in a largely non-regulated way by individual home owners and businesses. This significant source of nutrients cannot go on ignored if we hope to turn the tide in the Bay. The commenters request that significant consideration in the WIP should be made to correct this deficiency.

Response: Agreed. The Bay Cabinet is looking to enhance reductions from turf grass and lawns.

Comment # 119.

Commenter: C75

The commenter notes that the pie chart on 5-33 indicates 14 percent of Maryland's nitrogen load to the Bay comes from chemical fertilizer in urban/suburban runoff. The commenter points out that there are many instances where reductions are proposed for the agricultural sector but the commenter did not find anywhere in the WIP that reductions are proposed for the private sector?

Response: Most of those reductions would be classified under urban nutrient management, or in the larger jurisdictions, be included in stormwater implementation that must develop plans to meet urban nutrient goals.

Comment # 120.

Commenter: C106

The commenter notes that according to recent research, 23 percent of Maryland is devoted to turf cover and nearly 86 percent of that—1.1 million acres—is devoted to home lawns. A current estimate is that 65 percent of homeowners fertilize their lawns at an average rate of 87 lbs N/acre/year (Tom Schueler *The Clipping Point: Turf Cover Estimates for the Chesapeake Bay Watershed and Management Implications*. April 2010). The Chesapeake Stormwater network estimates that 63 million pounds of nitrogen and as much as 5 million pounds of phosphorus are applied to Maryland lawns every year. The commenter states that while much of the nutrients are incorporated into turf biomass, research has shown a significant potential for nutrient export from lawns in the form of stormwater runoff or leaching into shallow groundwater.

Response: See responses to comments 118 and 119.

Comment # 121.

Commenter: C1

The commenter questions how MDE can take a retrofit credit for redevelopment projects that are required for stormwater controls. He is unsure how retrofits can occur in areas that are required to provide stormwater controls. The commenter suggests that this is taking double credit for the same action. This comment stems from the last paragraph on page 8-6 of the draft.

Response: Where redevelopment occurs in areas without stormwater controls, i.e., areas developed prior to such controls in 1985, new requirements will include such controls in the redeveloped area, providing a basis for credit. If controls already exist, new requirements are more stringent and thus would still generate a credit, although less than for areas without any existing controls.

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Comment # 122.

Commenter: C26

The commenter notes that in previous TMDLs, regulated stormwater was included in the point source allocation. Although the commenter does not object to changing the category of regulated stormwater to a nonpoint source, it is inconsistent with previously developed TMDLs.

Response: Although described as “non-point source” regulated stormwater, that is areas that must have phase I or phase municipal separate storm sewer system (MS4) NPDES permits, are included in the wasteload allocation because they are in fact, point sources. Non-regulated runoff in other areas is in load allocation.

Comment # 123.

Commenter: C32

The commenter notes that the impact of nitrogen pollution has been well documented by the Severn Riverkeeper’s monitoring program that identified extensive oxygen depleted *dead zones*. It is their belief that a major cause of the nitrogen pollution is leakage from septic systems, which are dominant in the old residential neighborhoods of the western shore of the upper Severn. The commenter asks that extra emphasis be placed on the activities *Retrofitting existing septic systems in the critical area* and *Voluntary upgrades with Bay Restoration Fund (BRF)*, and that consideration be given to raising the existing milestones.

Response: Final WIP calls for best available technology (BAT) upgrade of all septic systems in Critical Area (see Chapter 5.2.4. Septic Systems, C). All jurisdictions will have an opportunity to place extra emphasis on the septic upgrade in specified communities of concern during Phase II WIP development. In 2011, MDE will assess options to phase in requirements to retrofit all septic systems in the Critical Area using best available technology beginning in 2012. This assessment may include viability of tax credits, income based criteria for grant eligibility and other means to facilitate upgrades. (BAT upgrade of additional 27,552 systems in Critical Area for a total of 32,379) Initiate phase-in in 2012.

Comment # 124.

Commenter: C43

The commenter recommends that the WIP include the CWA differentiation between medium and large MS4 jurisdictions, because the difference in population can be up to 9 times in Maryland, between jurisdictions of 100,000 and 900,000, which greatly affects the resources available to accomplish the WIP’s goals. The commenter suggests adding the following phrase: “NPDES Medium Phase I and Phase II jurisdictions will be limited to a maximum 20 percent retrofit/ restoration through 2020.” This is consistent with current draft MS4 permit conditions under review. This comment applies to page ES-15 and Section 5.2.2.

In addition the commenter requests that. Strategy 1 of Section “A” under Section 5.2.2 read as follows: “Require 30 percent retrofit/restoration for Maryland’s largest counties and the State Highways Administration subject to Phase I Municipal Separate Storm Sewer System (MS4) permits.”

Also, the commenter requests the following be added with the bullets in Section 5.2.2 under Section A, Strategy 1 on page 5.23: “MDE will provide grants for public and private partnership projects to establish stormwater retrofit and water quality improvement project mitigation banks.”

Response: The table in section 5 makes the distinction between requirements for Phase I and Phase II jurisdictions. With regard to funding, EPA's evaluation has shown that all load reductions identified in the final WIP for MS4 Phase I and Phase II jurisdictions as well as other sources will be needed to meet Maryland's 2017 Interim goals. However, while permit requirements assure implementation, the State recognizes the significant cost for stormwater controls and commits to convening a group of experts to identify the most cost effective practices to achieve retrofit requirements. For example, the State Highway Administration has estimated using the most cost effective practices may reduce its costs by as much as two-thirds. This will not relieve the stormwater sector from other restoration goals that have longer time horizons, but rather, is designed to allow the stormwater sector to meet nutrient and sediment goals sooner than would otherwise be financially feasible. Controlling costs by using alternative means of achieving nutrient and sediment reductions is an option available to local governments. These alternatives may include funding reductions from non-urban stormwater sources pursuant to State and federal trading programs. This will not relieve the stormwater sector from other restoration goals that have longer time horizons, but rather, is designed to allow the stormwater sector to meet nutrient and sediment goals sooner than would otherwise be financially feasible.

Finally, MDE has formed an NPDES Stormwater Workgroup composed of local jurisdiction staff to research new and innovative water quality treatment practices. MDE's goal is to develop a robust group of urban BMPs that can be implemented to ensure that Chesapeake Bay TMDLs and water quality standards are met. Maryland's NPDES Stormwater Workgroup is eager to work with the EPA to help develop appropriate efficiencies for ESD to the MEP, stream restoration, coastal plain step-pools, and other urban BMPs that EPA has yet to assign efficiency values.

Source Sectors—Forest

Comment # 125.

Commenter: C3

The commenter believes that the proposal to eliminate the fee-in-lieu in regards to the Forest Conservation Act (FCA) is not in the best interest of the program. The primary reason to retain the fee-in-lieu option is that there is not enough banking opportunity at this point to meet the FCA obligations in every county. The commenter has found varying availability and inconsistent application of requirements relative to mitigation banking throughout the state and does not feel that the timing is right to do away with fee-in-lieu completely. Most counties already restrict the use of fee-in-lieu, only accepting it as a last resort. This is a more reasonable approach because not every project can meet their FCA requirements onsite and if banking opportunities are not available and the fee-in-lieu option does not exist, the property owner will be unable to pursue a project. The goal of the FCA was not to stop development, but to allow development that is compatible with forest protection. FCA requirements have becoming increasingly stringent; removing the fee-in-lieu option would create a hardship for many small property owners seeking minor subdivision approval.

The commenter further states that removing the fee-in-lieu option could result in a situation where property owners are being held hostage by bank operators who may have a monopoly on mitigation bank sites. With a reasonable fee-in-lieu option in place, bank operators are forced to remain competitive and realistic with their pricing. Removal of the fee-in-lieu option could result in abuse of the system by a few bank operators that hold county monopolies.

The commenter concludes that the fee-in-lieu should be retained in practice and that the cost of the fee-in-lieu should be kept reasonable so that it will still be paid because the county governments have the best opportunity to reforest public lands and to work with private landowners to create forest

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buffers on crop lands and recreational lands. In many cases it seems that trying to establish and maintain a mitigation bank in an active farm environment may not be practical, however the County may be able to fund buffer reforestation projects on private lands with less cumbersome processing and less requirements than the bank establishment. The fee-in-lieu can be used for this purpose to expand forested buffers on agricultural lands if the fee-in-lieu funds are maintained.

Response: Based upon overwhelming public input, the State removed the language regarding removing the fee-in-lieu program and has offered a contingency in Chapter 7 of the WIP document. Current language states, *“Strengthen Maryland’s FCA by requiring that State and local FCA programs be amended to require a “no net loss of forest” approach. MDNR will work in conjunction with the Sustainable Forestry Council, local governments and other stakeholders, amendments can be crafted to meet this approach. The recommended approach would be to encourage forest mitigation banks and strengthen fee in lieu of payments where necessary to encourage banking. This approach would use forest mitigation banks to encourage the creation and retention of forests in areas providing the greatest benefit to local ecosystems and the Bay.”*

Comment # 126.

Commenter: C6

The commenter states that the loss of fee-in-lieu monies used by local jurisdictions for reforestation, afforestation, Urban Tree Canopy assessments, conservation land purchase, and staffing as allowed under current legislation would be lost, but the mandates, both legislated and brought about by public expectations, would remain. This will have the same effect on local jurisdictions as other unfunded mandates.

Response: See response to comment 125.

Comment # 127.

Commenter: C6

The commenter states that the new market demand for mitigation banks may quickly drive up the cost. If fees-in-lieu are no longer available as an option, the cost will follow the increased market demand and be passed onto buyers leading to another blow to efforts to create affordable workforce housing for most local jurisdictions. The commenter also notes that it is not stated, nor understood, how the utilization of a mitigation-banks-only approach lends itself to “no net loss” of forests any more than the current system.

Response: See response to comment 125.

Comment # 128.

Commenter: C6

The commenter states that the current Forest Conservation Act (FCA) regulations are flexible in that they allow a combination of on-site planting, fees-in-lieu, and/or use of existing mitigation banks. This flexibility would cease with a single off-site option. Moreover, the creation of multiple functioning private mitigation banks, with accompanying legal and engineering work for each, will take years to realize. Current FCA regulations encourage the aggregation and utilization of funds for larger projects, with the inherent gains or protection of habitat and overall forest cover within a watershed, e.g., South River Greenway.

Response: See response to comment 125.

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Comment # 129.

Commenter: C6

The commenter expresses concern that new market demand for banks may quickly drive up the cost of utilizing same. If fees-in-lieu are no longer available as an option, the cost will follow the increased market demand and be passed onto buyers - another blow to efforts to create affordable workforce housing for most local jurisdictions.

It is not stated [in the draft Plan], nor understood, how the utilization of a mitigation-banks-only approach lends itself to “no net loss” of forests any more than the current system.

Response: See response to comment 125.

Comment # 130.

Commenter: C6

The commenter feels that the goals of urban forest creation and public safety do not mesh. As a rule, Boards of Education, recreation agencies, universities, public hospitals, correctional facilities, veterans’ cemeteries and the like are more inclined to the practice of thinning forest stands on their lands for security, rather than to creation of forests.

Response: In urban settings the State recognizes there needs to be precautions taken regarding public safety. Species of trees and tree locations must be carefully considered when creating urban forests.

Comment # 131.

Commenter: C41

The commenter is concerned about the elimination of the fee in lieu of payment option and requiring forest mitigation banks to meet the no net loss of forest provision. While the commenter supports the no net loss of forest provision, he sees harm in eliminating the fee in lieu of payment option. He states that Baltimore County has a nationally recognized Forest Sustainability Program, and within that framework has developed a Community Reforestation Program that has reforested nearly 200 acres using the fee in lieu of payment option. The proposed WIP would effectively eliminate the funding source for the successful county program which would not be able to continue without the financial support of the fees.

Response: See response to comment 125.

Comment # 132.

Commenter: C43 WMA

The commenter notes that the terms water quality improvement projects (for a percentage of a jurisdiction’s impervious surfaces) and restoration (of existing impervious area) appear to be used interchangeably, which is confusing. Some NPDES Phase I jurisdictions appear to be under the impression that restoration of impervious surfaces required a stormwater retrofit project from those listed in the 2000 Maryland Stormwater Design Manual with the addition of stream restoration, and to meet water quality code requirements to the maximum extent practicable. MDE recently provided a list of Urban BMPs which provide ‘restoration’ of impervious surfaces and it is confusing of how to reconcile the list of Urban BMPs with MDE’s proposal to require the one-inch storm be treated for impervious surface to meet restoration. The commenter requests a clarification of the meaning and qualifications of *restoration of existing impervious surface*.

Response: There has been a growing recognition by many federal, State and local officials to standardize the accounting of stormwater restoration practices required in NPDES stormwater permits. Providing standardized accounting procedures will ensure the fair implementation of stormwater permit requirements among jurisdictions. Also, standardization will provide local governments with a known target for planning and budgeting to meet permit conditions and Chesapeake Bay stormwater waste load allocations (WLA). MDE has proposed that stormwater retrofits should be designed to manage 1 inch of runoff for water quality using Maryland's Stormwater Design Manual. Retrofit projects that make sense to implement but can not be sized to meet the full 1 inch design criteria can be pro-rated for credit based on the runoff volume that the facility is capable of managing.

Many Phase I commenters noted that providing traditional stormwater retrofits (ponds and wetlands) in the urban environment is both costly and, often times, constrained. MDE recognizes these costs and constraints, and has decided to greatly expand the list of stormwater-related practices that will be available for credit. These include redevelopment, stream restoration, regenerative stormwater conveyance, street sweeping, inlet and storm drain vacuuming, litter control, environmental site design, and forest and streamside tree buffer plantings. Based on the monitoring of these practices and pollutant load efficiencies, "equivalent" impervious acres restored are being determined to guide local governments in meeting permit conditions for restoring impervious acres. A full discussion of this process and other water quality improvement projects currently under consideration can be found in Maryland's final Phase I WIP.

Source Sectors—Air deposition to nontidal streams

Comment # 133.

Commenter: C33

The commenter points out that page 5-18 indicates that roughly one-third of the pollutant loads come from atmospheric deposition. The commenter suggests that more measures should be identified and added to the WIP to address air quality. Additionally, the commenter asks if the allocations to other sectors are reduced by the amount of each sector's NPS loads that are generated by air pollution.

Response: Maryland making use of every possible reduction from air deposition that it can find and is infrequent communication with EPA to determine what EPA has included and what additional credits can accrue to the State. EPA has taken credit for reductions in atmospheric resulting from national Clean Air Act regulations. Maryland can get credit for its Health Air Act, some small diesel reductions, and eventually for California Low Emission Vehicle I and II emission regulations for cars.

Gap Analysis

Comment # 134.

Commenter: C14

The commenter notes that equal percent load reductions from different sources make sense from the stand point of everyone sharing the costs of cleaning up the Bay, but she thinks some strategies will be going to be easier/cheaper to implement than others the focus should be on "low-hanging fruit" and get the most from the technologies and solutions that are the easiest to implement and the state should strive for the best affordable reduction strategies that are the easiest to implement. The commenter is not sure that the equal percent reduction as a goal is the best way to proceed.

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Response: Consideration of cost effectiveness in local area strategies selection will be part of the Phase II WIP process.

Comment # 135.

Commenter: C14

Along with the importance of monitoring of BMPs, the commenter would like to see it made more explicit in the TMDL plan that adaptive management will be used throughout this process. If the set quotas on nitrogen, phosphorus, and sediment are not having the desired effect of cleaning up the Bay, she wants to know that those quotas will be re-evaluated and set lower. If the actions taken are not reaching the goals, what will be the next steps to meet the quotas? This will take adaptive management after monitoring. Thus, there needs to be explicit language that deals with adjustments that might need to be made in the TMDL over the next 10 years in order to meet the goals.

Response: There will be evaluations of progress every two years for the milestones. In addition to BMP tracking, water quality monitoring will confirm that appropriate progress has been made. There will be a major re-evaluation in 2017 preparatory to the final implementation by 2020 (Maryland) and 2025 (other jurisdictions).

Comment # 136.

Commenter: C33

The commenter notes that on page 3-5, the second paragraph seems to conflict with the footnote. The text reads that growth on sewers by 2020 is expected to exceed permitted capacity by 40,000 households. The footnote indicates that sewer demand would be expected to exceed current permitted capacity by 62,000 households. The commenter requests the WIP explain the difference.

Response: The difference results from two different growth scenarios. The text describes forecasted growth under Current Policies, such as existing local zoning. The footnotes describe forecasted growth under Smart Growth, i.e., local zoning and other policies are improved so that a higher percentage of future growth can be accommodated in sewer areas. Under a Smart Growth scenario, a higher amount of sewer demand results.

Comment # 137.

Commenter: C33

The commenter notes that on page ES-10, the first paragraph indicates that an 88 percent increase in capacity is needed to meet the nitrogen interim target. The commenter requests the WIP include the background information in the text of Element 4 along with including the figures from the Executive Summary in the text of Element 4.

Response: The information from the Executive Summary should be distinguished from the text and analysis in Element 4. The analysis in ES-10 was intended to show the process the State would use to identify the state-wide gap for nitrogen. It is not sector specific. It concludes that an 88% increase in capacity would be needed to meet the 2017 interim target.

The gap analysis provided in Element 4 (along with Appendix I, to clarify and demonstrate the computation method) provides an analysis based on sector specific load reduction projections. The analysis estimates the future load with current levels of programmatic capacity. It does not evaluate the increased need for each sector in implementation, as compared to the state-wide analysis in the Executive Summary because there is no requirement for each sector to meet a 70% reduction goal.

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Comment # 138.

Commenter: C57

The commenter states that since the capacity analysis is based only on the state capacity in the Phase I WIP, the capacity to implement the actions may be an overestimated in the WIP since many of those actions need to be implemented at the local government level (urban practices both regulated and unregulated) or by private operators (agriculture).

Response: It is more likely that capacity to implement at the State level will be under-estimated. Local and private capacity was not included since it was not known as the WIP was being developed. Local gap analysis will be part of Phase II.

Comment # 139.

Commenter: C57

The commenter points out that the number of acres indicated as restored (65,780) in the last paragraph on page 2-11, does not match the acres restored in the table (78,856). The discussion in the last two paragraphs and the table is confusing. The next to the last paragraph discusses a Tributary Strategy goal of 416,000 restored urban acres (set in 2004), the next paragraph indicates that 65,780 acres were restored, and the table 78, 856, but only includes years 2008–2011. The commenter is requesting clarification of this section.

Response: Corrections were made in the final WIP (pages 2-26, 2-27).

Comment # 140.

Commenter: C57

The commenter refers to pages 3-2 to 3-4 and states that it is unclear in the discussion of loads due to future growth whether the new Maryland stormwater management regulations have been applied to the analysis. Most of this discussion centers on septic versus enhanced nutrient removal (ENR) for waste treatment. The commenter questions if there was consideration to the effect of land use change. There will be different effects on the ultimate loads when new development results in forest loss versus loss of agricultural lands. The commenter states that discussions seem to assume that all development will be new development whether in rural areas or urban areas, yet much of the future development (particularly in the more urbanized jurisdictions) will be redevelopment. Redevelopment with the application of the stormwater water quality regulations will result in a load decrease.

Response: The analysis of nutrient loads due to future growth is meant to demonstrate the large difference in future loads that result from development in sewerred areas versus in non-sewerred areas. The loads are post-development loads and do not consider land use change. The analysis uses stormwater loading factors that consider the application of the new Maryland stormwater management regulations; however, the factors are rough estimates and are subject to change. The analysis could be refined to consider redevelopment, which would show an even lower future nutrient load impact from development in sewerred areas compared to non-sewerred areas.

Comment # 141.

Commenter: C57

The commenter refers to Table 3.1 and states that it is unclear and inadequately described in the text. Why is the column on Agriculture Target Reduction in the table that is contrasting rural development on septic versus urban development on ENR.

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Response: Agriculture Target Reduction is included in Table 3.1 to show the magnitude of future nutrient loads due to new development that must be accounted for.

Comment # 142.

Commenter: C74

The commenter notes that the WIP includes a simple, effective, way of implementing the Smart Growth strategy in urbanized, higher density areas while complying with the TMDL limits. This goal should be maintained and strengthened by using expedited funding and permitting where applicable.

Response: Comment noted. See also response to comment 89.

Comment # 143.

Commenter: C92

The commenter supports the tiered system for nutrient offsets, with lower job/housing densities that generate higher per capita loads being required to provide more offsets than development with medium and higher job/housing densities. The commenter states that this is a Smart Growth approach, but the State needs to be clear about how "moderate" and "high" per capita loading areas and their related densities are defined.

Response: Comment noted. Definitions will be developed during Phase II. See also response to comment 89.

Comment # 144.

Commenter: C92

In the gap analysis section, the commenter requests that the following are addressed in the WIP:

- The projected Bay Restoration Fund deficit should be stated in dollars.
- In the graph showing Total Nitrogen Gap Analysis Projected Reductions, if the point sources are the major WWTPs please re-label to WWTPs. If point sources are a combination of WWTP and other sources, suggest they be shown separately.

Response: The referenced information is included in the final submission.

Comment # 145.

Commenter: C92

The commenter points out that the gap analysis sections notes investments of the scale needed to achieve the nitrogen reduction goals will likely generate efficiencies that lower some costs, septic system upgrades being one example. While the cost of the nitrogen reducing system may decrease, the initial installation cost and the cost of on-going maintenance will still be an increased cost to the homeowner.

Response: True.

Comment # 146.

Commenter: C87

The commenter suggests offset requirements may be premature due to the lack of eligible locations (e.g., farms) on which to create offsets. To include this requirement in the Phase I draft WIP without first identifying an inventory of eligible offset locations will severely stunt Maryland's growth until

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such an inventory is established. The commenter recommends against requiring offsets for new and redevelopment until the Phase II WIP.

Response: A trading system is already in place, developed by both the Maryland Department of the Environment and Agriculture. Both are available on the web. The MDE Policy for Nutrient Cap Management and Trading (see <http://www.mde.state.md.us/programs/Water/Pages/water/nutrientcap.aspx>) and the draft MDA Guidelines for the Exchange of Nonpoint Credits (see <http://www.mdnutrienttrading.com/>) provide a means to accommodate additional WWTP discharge beyond cap limits. These existing policies (in addition to other mechanisms that are not yet developed in coordination with EPA and local governments, such as offset policy) will be used to implement the Maryland WIP accounting for growth policy. Also, the Phase II WIP process will reexamine target load allocations among point and nonpoint sources. See also response to comment 89.

Comment # 147.

Commenter: C87

The commenter suggest that that idea of equal percentage reduction by sector, as referenced on page 4-1, does not take into account the relative cost of nutrient reduction. Urban nutrient management is often more than an order of magnitude more expensive than agricultural nutrient management or wastewater treatment. Therefore, requiring the same percentage reduction across all sectors is likely to result in an increased cost to meet the TMDL requirements (and thus increased financial burden on the citizens of Maryland) than if the draft WIP analyzed the most cost-effective methods for reducing nutrients and then spread those costs equitably across society.

Response: The issue of equity was a very difficult one, because each sector was concerned that it would be targeted. Thus, the equal percentage reduction of reducible load was a way to allay that concern. Cost is somewhat addressed because the reducible load is defined as a function of the maximum feasible implementation, so where implementation is more difficult (=more expensive), the reducible load will be less. However, cost and cost effectiveness is a major focus of Phase II.

Comment # 148.

Commenter: C94

The commenter suggests when accounting for growth in rural areas flexibility is necessary. The commenter states that development using public sanitary facilities may not be possible.

Response: Location specific issues will be addressed in Phase II. See also response to comment 89.

Comment # 149.

Commenter: C88

The commenter states that it is unclear if WIP provisions will support *Smart Growth* in rural areas and that the WIP may exacerbate sprawl in much the same way as the new stormwater management regulations. Requiring more land for attenuation and buffering may lead to the disturbance of more land area. Additionally, the commenter states that WIP provisions will increase construction costs which will likely make it difficult to feasibly develop.

The commenter suggests the following building pattern: increased development costs will lead to construction of larger homes because these are the only possible options that will translate into profitable development opportunities for builders; larger homes typically involve larger lots and increased areas of disturbance; and increased development costs and retrofitting requirements will

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make re-development more difficult and more expensive which will cause most new construction in rural areas to take place away from existing development centers. The commenter suggests that WIP provisions may actually lead to more forest/agriculture conversion than present trends.

Response: See also response to comment 89.

Comment # 150.

Commenter: C101

The commenter notes chapter 3 of the WIP contains the following assumption, “New development on septic tanks is assumed to be in the form of 2 acre lots that contribute non-point source loads of 3.15lbs TN per acre per year, served by septic systems discharging 12.16 pounds of TN per year.” The commenter states that in W.G. Reay’s comprehensive study of the impact of septic systems he determined the amount of nitrogen loading to be 16.75 pounds per year (W.G. Reay, *Septic Tank Impacts on Ground Water Quality*, National Ground Water Association, Vol. 42, No.47, 2004).

The commenter expresses that the amount was not based on lots as large as 2 acres, and they were in close proximity to tidal waters with a relatively shallow groundwater influence. The commenter states the estimate was based on conventional septic system design and can only assume the same for the WIP statement since it is not defined. The commenter notes that the January 2009 Bay Restoration Fund Advisory Committee’s *Annual Status Report* says that 450 enhanced nutrient removal septic systems were installed using Bay Restoration Grant Funding eliminating 6,849 pounds of nitrogen. On a per unit basis that would be 15.2 lbs per dwelling, or more than the total amount estimated by the MDP and very close to the same thing when adjusting the W.G. Reay results for larger lots and less proximity to high water tables. The commenter notes the figures provided in the January 2010 *Annual Status Report* reflects the same per unit average reduction. The commenter asks if these systems actually remove 100 percent of the estimated nitrogen load. The commenter also asks if the assumption in the WIP correct.

Response: The analysis of nutrient loads due to future growth is meant to demonstrate the large difference in future loads that result from development in sewerred areas versus in non-sewerred areas. The higher loading factors listed by the commenter would still support the findings of this analysis.

Comment # 151.

Commenter: C101

The commenter notes that the WIP contains several references to a nutrient “Cap and Trade” program, (Section 3, *Accounting for Growth*). The commenter states the process, means, pricing, and management of such a program are so vaguely stated that a reasonable conclusion cannot be reached regarding the validity of such a proposal. The commenter suggests deleting this recommendation in its entirety unless specific program terms are added so that it implications can clearly be understood.

Response: Existing programs outlining specific requirements are on the web. See also responses to comments 89 and 146.

Comment # 152.

Commenter: C56

The commenter points out that the ruling of the Ninth Circuit U.S. Court of Appeals in *Friends of Pinto Creek versus EPA* calls into question the legality of including offsets in new NPDES permits, as the WIP would require. Nothing in the CWA explicitly allows pollution trading. Instead, the CWA formally prohibits the discharge of pollutants to navigable waters except when authorized by a

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NPDES permit. Even then, the commenter questions the legality of including offsets in new NPDES permits because nothing in the CWA or in regulation provides an exception for an offset when the waters remain impaired and the new source is discharging pollution into impaired water.

Response: That ruling was limited to the 9th circuit. EPA has agreed to develop regulations that respond to that issue. Further, it only disallowed offsets in the absence of a plan to achieve water quality standards. The TMDL in combination with the various States' watershed implementation plans constitute a plan to achieve water quality standards and thus permit offsets within the constraints of the plan. EPA requires all Chesapeake Bay WIPs to include a method to account for the growth in point and non-point source loads.

Comment # 153.

Commenter: C82

The commenter (Frederick County) is uncertain how to implement offsets for new development without regulatory authority to require any action beyond what current Stormwater Management and Forest Resource Ordinance regulations. The commenter asks which agencies would be involved (Planning, Soil Conservation District, Permitting and Development Review, Public Works, Health department, other) and would the offset requirement go into land use planning in a specific manner.

Response: Part of Phase II will be to determine what other authorities are needed. For example, a county could require that offsets be submitted with a building permit application. See also response to comment 89.

Comment # 154.

Commenter: C94

The commenter suggests that low per capita loading areas will generate additional loads. For section 3, the commenter asks how these loads be offset in the overall plan.

Response: The accounting for growth strategy recognizes that infill development (but not redevelopment) in low per capita loading areas would generate additional stormwater loads and notes that post-development non-point source loads would need to be offset to the standard forest loading rate (as established by MDE).

Comment # 155.

Commenter: C82 -WMA

The commenter notes that wetland banking is included as an offset tool and asks if the State or counties will to administer that program and how would it work within an offset trading program.

Response: See response to comments 89 and 146.

Comments on Specific Strategy Options—General

Comment # 156.

Commenter: C106

The commenter states that the draft WIP included the following strong proposals that should remain in the final WIP:

- Establishing a pilot program to promote alternative uses of poultry manure;
- Updating large minor waste water treatment plants to use enhanced nutrient removal;

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- Retrofitting up to 50 percent of impervious surface in the largest counties;
- Regulating more urban turf; and
- Requiring upgrades of stream-side septic systems throughout the state

Response: All of those except retrofitting 50% of impervious surface have been retained; 50% remains a contingency option.

Comment # 157.

Commenter: C104

The commenter states the final WIP should incorporate the strong proposals from the first draft, including:

- Continuing to upgrade all major WWTPs;
- Strong standards for offsetting future loads from growth and encouraging smart growth;
- Retrofit requirement of 30 percent in MS4 permits and address infrastructure funding shortfalls; and
- Requiring upgrades of septic systems located in riparian areas throughout the state.

Response: The referenced information has been retained in the final submission.

Comment # 158.

Commenter: C82

The commenter states that in urban areas, natural filters should count towards the NPDES MS4 Phase I permit goals for restoration as a strategy for watershed restoration to restore designated use impairments. Furthermore, these types of projects could be eligible for trades with urban requirements when placed on non-urban lands that have met their minimum reductions. MDNR could administer such a program under the guise of trading ecosystem services.

Response: Flexibility to use non-structural BMPs such as natural filters is available and will be encouraged to reduce costs. Trading is also an option.

Comment # 159.

Commenter: C26

The commenter states that because the cost to fully implement the load reductions required by the WIP is unknown, the WIP should focus on selecting the activities that provide the greatest pollutant reduction for the least cost. Table 5-1 should include for each planned activity the expected load reductions, an estimated total cost and a cost per pound reduced in order to select the most cost effective activities.

The commenter requests that each activity listed in Section 5 should have listed what percentage of the source sector allocation is being met by the listed activity along with anticipated load reductions.

Response: The suggested approach would likely result in an unfair allocation to agriculture. Rather, an equitable allocation was made based on equal percentages of reducible load, and sectors can then trade to reduce costs.

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Comment # 160.

Commenter: C26

The commenter requests that each activity listed in Section 5 should have listed what percentage of the source sector allocation is being met by the listed activity along with anticipated load reductions.

Response: Anticipated load reductions were added to Section 5, but not as part of the table.

Comment # 161.

Commenter: C28

The commenter suggests that available resources should be used effectively to get the best level of improvement in water quality possible. This would require a cost-effectiveness analysis as part of the allocation of loads and selection of qualifying practices. Given the current economic climate, the obligation of financially unsupportable requirements will not result in improvements from redevelopment, bankrupt HOAs, additional cuts in local government services, promotion of green-field development over smart and/or transit oriented growth, and a waste of taxpayer dollars if there is no cost benefit analysis.

Response: Cost effectiveness will be addressed in Phase II and trades will be allowed to lower costs.

Comment # 162.

Commenter: C30

The commenter asks the state to remove the suggestion that genetically engineered crops, feed, and animals should be introduced or used more widely. The efficacy of these options has not been proven, and they are not part of the sustainable food system that should be encouraged to improve the health of the Bay.

Response: The suggestion will be explored for technical sufficiency.

Comment # 163.

Commenter: C30

The commenter asks the state to remove the provision that creates a pollution trading program. Nutrient trading has been tried in other watersheds and has failed to result in reductions in overall nutrient levels largely because of the unwillingness of states to verify non-point source reductions. In addition, the commenter requests the state remove the provision that allows trading between point source and non-point source polluters. There is little evidence to suggest that such cross-source trading actually reduces pollution.

Response: Many stakeholders and EPA support trading. Maryland's trading program requires verification and will be used only to the extent it is applicable and verifiable. Trading may not reduce pollution directly but can reduce costs for a given pound reduction and therefore make it feasible to get increased pollution reductions. See also response to comment 146.

Comment # 164.

Commenter: C31

The commenter (town of Church Hill) feels that the determination of "low, moderate and high per capita loading areas" raises important issues for them. It appears that the draft WIP would classify Church Hill as a "Moderate Per Capita Loading Area" because their WWTP is not equipped with ENR treatment. The WWTP has a discharge limit of 80,000 gallons per day and has not been

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upgraded with ENR technology because resources have not been available to modernize or expand the facility. The commenter feels that at such a low permitted discharge level, the plant's contributions to watershed nutrient loadings are negligible. The draft WIP requires that development projects in moderate per capita loading areas "offset impacts to standards in excess of the standard forest loading rate." The moderate designation would stand to disadvantage Church Hill and many similarly situated small towns even though we are absorbing household and commercial growth that otherwise would take place in rural areas on septic systems. A public funding commitment to ENR and capacity upgrades of small town WWTP should be on the table.

Further, the draft WIP is vague on the criteria for such a designation. They believe the criteria for designation "low per capita loading areas" must consider places like the Town of Church Hill and their designated growth areas. If not, funds should be made available to Church Hill for ENR upgrades prior to tougher standards on development. They believe that development and redevelopment projects in Church Hill should be treated in an advantageous way like development in areas that have received ENR upgrades. Specifically they suggest that development and redevelopment projects in Church Hill should not be required to off-set point source loadings since the development takes place using public sewer that off sets impacts that could have occurred outside sewer service area. Additionally, redevelopment projects in Church Hill should not be required to off-set post-development nonpoint source loads. The commenter suggests the WIP should significantly not provide incentives for low density sprawl development and provide incentives for in town development.

Response: Details on "accounting for growth" will be worked out during Phase II, lead by the Maryland Department of Planning (MDP) with the other agencies participating. Contact MDP with your concerns early in the new year for a schedule on working out the details on this part of the strategy. See also response to comment 89.

Comment # 165.

Commenter: C46

The commenter notes that many BMP's and workloads mentioned in the WIP that are currently not feasible, due to technology and/or staffing. To be successful, staff needs to be trained and available. In addition, many new emerging technologies are not yet ready for wide use and appear to be ready for use in the WIP. The commenter stresses that planning will not produce results if there is not the staff or resources available for implementation.

Response: Agreed. Part of the process will be determining how to get the staff, funding and other resources necessary to complete the plan.

Comment # 166.

Commenter: C36

The commenter states that the implementation of many BMPs in the WIP is dependent on the availability of technical support, program funding, weather, and other industry constraints. For example, achieving the acres of traditional cover crops is dependent on several factors beyond the producers' control such as weather, seed availability, time constraints, planting dates, and funding limitations. Continued program funding support of commodity cover crops is recommended to help meet the annual cover crop goal. The commenter recommends support for nurseries by allowing nurseries to participate in cover crop program.

Response: See response to comment 165. Nursery participation in the cover crop program should be addressed to the Maryland Department of Agriculture. MDA assumes the comment on Nursery

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participation refers to applying cover crops on fields where container stock have been removed or planting in between rows of existing stock. MDA has a standing technical committee for the Cover Crop Program and will take the question to the committee.

Comment # 167.

Commenter: C37

The commenter points out that the USDA/NRCS report, *An Assessment of the Effects of Conservation Practices on Cultivated Cropland in the Chesapeake Bay Watershed*, indicates that additional controls are needed on agricultural lands to reduce nutrient and sediment runoff and water quality impairments. Compared to the agricultural sector, the land development sector is highly regulated with stormwater management, sediment/erosion controls, forest conservation, etc. The commenter questions why is there gross disparity regarding environmental impact controls exist between the two land uses.

Response: The USDA/NRCS report is a Bay wide assessment and assumptions cannot be applied to separate out individual state performance. Maryland Agriculture is regulated through mandatory nutrient management, sediment erosion control laws, CAFO and MAFO regulations. The USDA report verified that where specific quantitative goals have been set for agriculture there has been good success. For example in the arena of sediment erosion, over 87% of farmland in the watershed meets the federal standard.

Comment # 168.

Commenter: C37

The commenter suggests that the cost effectiveness of agricultural BMPs compared to stormwater retrofits or stream restoration should be more fully stressed and emphasized in the WIP. On a cost-per-pound basis, urban stormwater retrofits are among the most costly ways of reducing nutrient pollution compared to other practices. Some consideration should be made in the WIP to grant counties the flexibility in making implementation choices for pollution reduction. For example, a discussion on options for pursuing more agricultural-based implementation and less stormwater-based actions should be included in the WIP.

Response: Cost effectiveness will be a major issue in Phase II.

Controlling costs by using alternative means of achieving nutrient and sediment reductions is an option available to local governments. These alternatives may include funding reductions from non-urban stormwater sources pursuant to State and federal trading programs. This will not relieve the stormwater sector from other restoration goals that have longer time horizons, but rather, is designed to allow the stormwater sector to meet nutrient and sediment goals sooner than would otherwise be financially feasible.

MDE has formed an NPDES Stormwater Workgroup composed of local jurisdiction staff to research new and innovative water quality treatment practices. MDE's goal is to develop a robust group of urban BMPs that can be implemented to ensure that Chesapeake Bay TMDLs and water quality standards are met. Maryland's NPDES Stormwater Workgroup is eager to work with the EPA to help develop appropriate efficiencies for ESD to the MEP, stream restoration, coastal plain step-pools, and other urban BMPs that EPA has yet to assign efficiency values.

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Comment # 169.

Commenter: C38

The commenter states that nonpoint source pollutant reductions will be absolutely critical to achieving water quality goals, and he commends Maryland for recognizing this. It is clear that more comprehensive regulations on agricultural operations and storm water runoff from construction sites, impermeable surfaces and other non-point source areas will need to be addressed through a combination of controls. In particular, the list of BMPs for farming operations is excellent. Implementation will need to be thoughtfully tailored on a sector-by-sector basis, and in some cases on a farm-specific basis. The commenter urges MDE, MDA and MDNR to provide maximum possible support to the farming community to secure effective implementation of these practices.

Response: Support for the program outlined in the WIP will be critical to maintain our progress and meeting Maryland's 2 year milestone commitments.

Comment # 170.

Commenter: C38

The commenters encourages a rigorous and well monitored trading program as well as offset programs to accommodate new development with no increase in nutrient and sediment discharges. Monitoring and quantifying the results of these programs will be essential in order to assure their integrity and effectiveness.

Response: Agreed. Also see response to comment 89.

Comment # 171.

Commenter: C73

The commenter points out that only half of fertilizer sales are accounted to agriculture. Non-agriculture entities need to be held accountable for their fertilizer usage the same as agriculture.

Response: The trend in fertilizer usage suggests that the non- farm usage will soon surpass use on agricultural land. Maryland WIP has incorporated an option in the urban section to address improved fertilizer management on residential and non-agricultural land.

Comment # 172.

Commenter: C60

The commenter suggests that certain pollution controls presented in a menu of options be made mandatory. Without such mandates, there will not be a specific commitment to any of these options. The commenter also has concerns about a lack of clear funding commitments or deadlines for implementation. The commenter requests Maryland to be more specific and expansive in the final plan to include contingencies should some options be delayed or prove to be impractical. For example, requiring cover crops on fields where manure is applied or corn is grown.

Response: Additional details on funding and milestones were added to the final submission. Included were some dates by which some strategies could become mandatory if goals are not met.

Comment # 173.

Commenter: C51

The commenter states that requiring offsets for increased loads due to development will have serious implications for the local economy of Western Maryland. Garrett County has extremely limited land

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areas that qualify as Priority Funding Areas with the necessary infrastructure (e.g. water and sewer) to support higher density development. Requiring offsets for future development that may occur on septic systems places a disproportionate burden on rural counties that lack infrastructure and development activity to support compliance.

Response: Details on “accounting for growth” will be worked out during Phase II, lead by the Maryland Department of Planning (MDP) with the other agencies participating. Contact MDP with your concerns early in the new year for a schedule on working out the details on this part of the strategy. Also response to comment 89.

Comment # 174.

Commenters: C55, C81

The commenters state that strict enforcement of existing regulations and new stronger regulation of this nutrient source are essential to the restoration effort.

Response: Agreed.

Comment # 175.

Commenter: C57

Referring to page 3-8, the commenter states that redevelopment within any Per Capita Loading areas that results in a decrease in the existing loading rate should be exempt from offset requirements. By requiring offsets in Medium and High Per Capita Loading areas for redevelopment, there will be a disincentive for redevelopment. The commenter wants to encourage smart growth. Redevelopment is a key component of smart growth and all redevelopment should be exempt from any offset requirements.

Response: Redevelopment is going to be encouraged and this would be one way to do so. Details are not fully worked out on the accounting for growth strategy, which will be crafted more fully during Phase II. The final Phase I WIP was revised to reflect this comment.

Comment # 176.

Commenter: C92

The commenter requests that the state to do research and/or provide guidance on the cost effectiveness of various nutrient reduction options including soft/ hard costs to design and construct nutrient reduction options , along with estimates of staff time to implement, monitor, maintain and enforce these options.

Response: Costs and cost effectiveness will be a major consideration in Phase II.

Comment # 177.

Commenter: C87

The commenter notes that on page 3-5 the WIP states, “The supply of offset-generating opportunities from farms is likely to fall short of the expected demand for several reasons.” The commenter points out that in the Phase 5.3 Model, the agricultural sector allocation is approximately 50 percent of the difference between the *2009Progress* and *E3* loads. The commenter encourages analyzing trading opportunities as early as possible because the relative cost of agricultural nutrient management is at least one order of magnitude less expensive than urban nutrient management.

Response: Trading is an option; trading policies have been established for both point-to-point and point-to-nonpoint trading. See also response to comment 89.

Comments on Specific Strategy Options—Agriculture

Comment # 178.

Commenter: C106

The commenter notes two policy measures that Maryland should take to significantly reduce agricultural pollution: limiting manure application and requiring cover crops. Planting cover crops is one of the most effective and direct means of reducing nutrient pollution from fields. The challenge is to convince farmers to plant these crops, and a straightforward solution would be to make cover crops mandatory. At the same time, too much land in Maryland is already saturated with nutrients. Maryland farmers and agribusiness operators should therefore use a more stringent test to determine when to apply more manure, one that gives more weight to the nutrient saturation level of the soil. Maryland can begin to implement the two critical steps in its final WIP:

- Replace the Current Manure Application Test. The commenter agrees with including language in the draft WIP to revisit the P-index. The final Phase I WIP should include a December 31, 2011 deadline for adoption of a new phosphorus application test to replace the P-Index, and the WIP should state the principle that the test will be based on the latest science to minimize off-site phosphorus transport. This updated test should be phased in to apply first in hot spot areas where phosphorus saturation of soils is highest, then gradually expanded to the whole state.
- Require Cover Crops on Priority Acres. The final Phase I WIP should include a requirement for cover crops on priority acres, namely on fields after corn is harvested or where manure or sludge is applied.

Response: Maryland has addressed this in the agricultural section of the WIP under the P site Index. Maryland has committed to reevaluation and revision to the index based upon current ongoing science based review of this tool. The University of Maryland has data taken from 9000 fields between 200 and 2008 that it has been analyzing to evaluate this tool. Future management of phosphorus and nutrients will continue to be based scientific information and recommendations.

Comment # 179.

Commenter: C106

The commenter states that one of their most important recommendations is to set a December 31, 2011 deadline for adoption of a new phosphorus application test to replace the current P-Index, and the WIP should state the principle that the test will be based on the latest science to minimize off-site phosphorus transport. This updated test should be phased in to apply first in hot spot areas where phosphorus saturation of soils is highest, then gradually expanded to the whole state. The P-Index was never intended to be the long-term solution for managing phosphorus, particularly in areas with intensive animal operations. The P-Index seeks to determine the areas that have the highest risk of P loss to water so that more P will not be applied in those areas. While such an objective has some value, it is inappropriate to use the index universally. All farmland has significant risk of phosphorus loss to water. The P-Index is also an overly complex formula that is easy to tweak to achieve a desired result and supporters of the P-Index acknowledge its shortcomings.

As evidenced by University of Maryland data, the P-Index clearly is not working. The university formerly performed soil analysis as a service for farmers and compiled the data into a master database. When the phosphorus saturation rate of soil is above 18 percent, additional phosphorus is likely to flush away with rain. University of Maryland data shows that a large majority of soil samples from the four Maryland counties with the most intensive poultry production have excessive

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phosphorus saturation, ranging from 63 percent in Somerset County to 80 percent in Worcester County (Kovzelove, Simpson, Korcak. *Quantification and Implications of Surplus Phosphorus and Manure in Major Animal Production Regions of Maryland, Pennsylvania, and Virginia*. February 2010). The commenter states that excess manure in the four poultry-intensive counties is 488 million pounds, which translates into approximately 6.6 million pounds of excess phosphorus.

Response: See response to comment 178.

Comment # 180.

Commenter: C98

The commenter points out that the USDA and area university scientists have documented phosphorus imbalances on the region's farms due to over-application of manure. For this reason, the draft WIP includes a commitment to revisiting the P-index. The WIP should establish a timeline for review and tests for alternatives to the P-index based on the most current scientific principle for new phosphorus application in order to minimize off-site phosphorus transport. This review and testing regiment should be phased into areas where phosphorus saturation of soils is highest, then gradually expanded to the whole state.

Response: See response to comment 178.

Comment # 181.

Commenter: C109

The commenter supports a science-based review of the phosphorus site index that considers risk, soil type, distance to water sources, topography, crop needs, etc.

Response: See response to comment 178.

Comment # 182.

Commenter: C18

The commenter agrees and supports the process of revising the current P Index beginning in late 2010/early 2011 with a technical workshop, hosted by the University of Maryland's College of Agriculture and Natural Resources, that will provide a forum for discussion of relevant recent scientific advances, evaluation of the performance of the current P-Index, and evaluation of alternative approaches for revision of the P-Index. His organization welcomes the opportunity, in collaboration with the University of Maryland and USDA NRCS, to revise risk assessment tools for phosphorous nutrient applications.

Response: See response to comment 178.

Comment # 183.

Commenters: C17, C19

The commenters feel that though not part of the first two year milestones, the examination of the P-Index in future years is something that needs to be done carefully. They are concerned that changes to the P-index could create serious problems for our industry's and crop farmers' handling of litter/manure. All decisions must be made based on peer reviewed science and not on politics and perceptions. Some people and organizations, without the basis of good science, are calling for a prohibition on the use of this organic fertilizer on Maryland farms. The commenters will continue to be involved in this subject because of the implications for chicken growers. Additionally, the commenters note that changes to the P-Index negatively could affect the anticipated involvement of

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farmers in the nutrient trading program. If the P-Index threshold is lowered, some farms operating correctly under the existing higher level might be disqualified from trading because they will not meet the lower number. Without exceeding the minimum standards, they'll have nothing to trade. Such exclusions will jeopardize the planned trading program.

Response: See response to comment 178.

Comment # 184.

Commenters: C89, C93

The commenters suggest that the P Index should be revised to require reducing phosphorus levels to agronomic requirements and soil tests before all applications of human sludge and/or animal waste/manure. These latter measures must be required to assure that soils are not saturated with phosphorus.

Furthermore, commenter C93 states that scientists from USDA and area universities have documented phosphorus imbalances on the region's farms due to over-application of manure and requests that the final Phase I WIP should include a December 31, 2011 deadline for adoption of alternatives to the P-index, and should state the principle that the new phosphorus application test will be based on the latest science to minimize off-site phosphorus transport. This updated test should be phased in to apply first in hot spot areas where phosphorus saturation of soils is highest, then expanded to the whole state.

Response: See response to comment 178.

Comment # 185.

Commenter: C48

The commenters note that the State has suggested that it will be "...convening a technical workshop, hosted by the University of Maryland's College of Agriculture and Natural Resources" to discuss "...relevant recent scientific advances, evaluation of the performance of the current P-Index, and evaluation of alternative approaches for revision of the P-Index." The commenter, Maryland Association of Municipal Wastewater Agencies, state that this is an important issue for their members who manage biosolids under the EPA and State-approve method of land application. They request the opportunity to participate in the technical workshop mentioned and believe their membership can offer expertise with regard to the referenced issues.

Response: See response to comment 178.

Comment # 186.

Commenter: C76

The commenter points out that USDA scientists and Maryland universities have documented phosphorus imbalances on Maryland farms due to over-application of manure. The commenter suggests that the final Phase I WIP include a deadline of 2011 for adoption of alternatives to the P-index and should require the phosphorus application test be based on the latest science to minimize off-site phosphorus transport. This updated test should be phased in to apply first where phosphorus saturation of soils is highest, then gradually expanded to the whole state.

Response: See response to comment 178.

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Comment # 187.

Commenter: C92

The commenter requests that the state work to revise the P-index for nutrient management so that it does not result in an unintended consequence of eliminating the local recycling of manures and WWTP biosolids.

Response: See response to comment 178.

Comment # 188.

Commenter: C62, C83

The commenters request that any review and adjustment to the P index should be done using sound scientific data.

Response: See response to comment 178.

Comment # 189.

Commenters: C17, C19

The commenters believe the WIP's projection of new heavy use poultry pads on 400 farms and 53 new poultry waste storage structures between the end of 2009 and the end of 2011 is realistic as is the projection for an additional heavy use poultry pads on 200 farms through 2012 and 2017, but only as long as federal or state cost share dollars are available. Absent those financial incentives, this goal will be hard to reach. The WIP is silent on sources of money to help install these structures. The commenters states that chicken growers, like other farmers, have little or no ability to raise their prices to cover higher operating costs such as installing environmental practices, even their portion of the cost-share program.

In addition, the commenters are concerned that the newly installed heavy use poultry pads, poultry waste structures, and poultry manure storage structures may be considered by EPA to be impervious surfaces and such a designation could be used against the chicken industry and agriculture's efforts on water quality improvements.

Response: Maryland Agricultural Water Quality Cost-Share (MACS) program provided funding for 319 heavy use poultry pad projects (each project usually includes 2-5 pads). With continued cost-share incentives Maryland goals should be achieved.

Comment # 190.

Commenters: C13, C17, C19

The commenters state that until the research has been completed and published, proposals to include any new in-house ammonia emission control systems in the WIP is premature. They point out that research is underway at the University of Maryland Eastern Shore on technologies being developed by two Wicomico County companies and that this research is in its infancy and has not been tested and evaluated under diverse, real world conditions. It is premature even to propose this option. Not only are the projected costs of these systems premature, we have no experience on the maintenance required to operate these systems and the longevity of their components. It may be prudent for agencies and the poultry industry to review all options before deciding on which option(s) is (are) most appropriate.

Response: The option has been removed in the final WIP.

Comment # 191.

Commenters: C17, C19

The commenters state that the use of phytase in poultry rations has had a huge impact on phosphorus reduction and similar nutritional opportunities might exist in reducing phosphorus and nitrogen if the poultry companies are provided a financial incentive to implement such practices. The commenters feel that it would be important they be given an incentive based on the level of nutrient reduction achievable and they (not researchers or agencies) determine the strategy within their operations to best achieve those reductions. The strategies and incentives must be done as to keep our poultry industry competitive with other regions of the country.

The commenters note that the expectation of more water quality improvements through the use of phytase must be based on realistic conditions and must not create requirements that the chicken companies cannot meet. The welfare of the birds must be considered with the use of phytase. There needs to be state specific efficiencies assigned to phytase use. The commenters understand that the Chesapeake Bay Model averages the efficiencies of all the watershed states into one number. Since Maryland poultry integrators do a better job of reducing phosphorous in feed formulations with the use of phytase, Maryland's reduction number most likely is higher than the watershed average. Accordingly, the model and the WIP need to account for this better than average performance.

Response: To date, modification to poultry diets have been cost effective for the poultry companies and improve the environmental management options for manure. Maryland will need to conduct more intensive sampling of manure phosphorous levels as documentation to the Bay Program modelers, to verify the improved reduction of phosphorous in the feed formulations.

Comment # 192.

Commenters: C17, C19

The commenters are concerned that the 2-year milestone for 2,500 acres of litter incorporation is unrealistic because the technology that is envisioned is not even commercially available. They note that until it is available on a commercial scale, which might be years away, there is no opportunity to use it and therefore this practice should not be included in the first 2-year milestone. Additionally and equally significant is the fact that farmers will have no experience with this equipment until it has been used for several years. Once in use, using observations from the prototype demonstrations, the operating procedures likely will involve significantly more time and cost. Although continuing to evaluate this research tool has merit, the commenters ask "Why not ask farmers to incorporate litter using existing minimum soil disturbance equipment that they already may have?"

Response: The milestone refers to litter incorporation not injection. Currently, a number of farmers are already utilizing Turbo till equipment to incorporate poultry manure.

Comment # 193.

Commenters: C17, C19

The commenters point out that the manure transport program has been one of the most successful alternative use programs while using the valuable nutrients of this organic resource. It is unclear in the description what is meant by transporting an additional 10,000 tons out of the watershed in 2010–2011 and 25,000 tons by 2012–2017. They ask "Is this transporting the additional manure outside the entire Chesapeake Bay watershed or moving it out of the watersheds in the state of Maryland? Does the WIP intend to quantify the amount of litter/manure moved without the benefit of the state's

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manure transport program? Until such time that allocations are available for each individual county and watershed, how does one determine the best destination for relocation?”

They believe the state’s manure transport program should continue to allow movement of manure from over-enriched areas of the state to areas of the state where it can be applied under the auspices of state certified nutrient management plans. Movement of manure from the Lower Shore counties was an original goal of the transport program when created in 1998

Response: Maryland’s final WIP document provides information on fully funding the Manure Transport Program. Transport out of the watershed refers to alternative uses or transport of manure to counties or states that do not drain to the Chesapeake Bay. Maryland currently does not have a method for tracking manure transport unless it occurs within the state incentive program.

Comment # 194.

Commenter: C22

The commenter notes that in the beginning of the report, it states “Examples of innovations might include development of seeds and crops that require less fertilizer and processes to reduce ammonia released from poultry manure.” Does this mean GMOs (genetically modified organisms) or alternative heirloom crops will be supported?

Response: No, the option does not suggest the use of GMO or heirloom crops.

Comment # 195.

Commenter: C18

The commenter agrees and supports that use precision agriculture on 100,000 acres of farmland from 2010–2011 and an additional 120,000 acres from 2012–2017 because precision agriculture seeks to maximize the efficiency of nutrient application to cropland, thereby minimizing waste and nutrient runoff to the Bay.

Response: Noted. Thank you.

Comment # 196.

Commenter: C18

The commenter agrees and supports that new seed varieties should be developed for additional nutrient efficiency. Current seed varieties are only 40 percent to 50 percent efficient at using and up taking nutrients. Current test varieties of some new seeds provide up to 60 percent efficiency in using available fertilizer.

Response: Noted. Thank you.

Comment # 197.

Commenter: C26

The comment asks why ‘Stream Restoration Non-Coastal Plain’ is included only in this section (New Farming BMPs on page 5-16). What about restoration of coastal plain streams?

Response: Restoration of coastal plain streams falls under the option of “vegetated open channels.”

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Comment # 198.

Commenter: C26

The commenter notes that implementation of certain goals such as cover crop acres are driven by weather, which is an unpredictable variable. The commenter notes that for such a goal, a contingency cannot be carried over to a different year and asks how this will be taken into account if cover crops cannot be planted in a given year.

Response: The agricultural options included in Maryland's WIP provide twice the amount of nitrogen and phosphorous reductions required to meet the agricultural sector's allocation. Shortfalls in any one year for cover crops or other BMPs would be partially offset by additional BMP implementation.

Comment # 199.

Commenter: C46

The commenter suggests that agriculture needs to be responsible for their portion of the restoration and trading will ultimately weaken the agriculture base and should not be used to balance the shortcomings of the other sectors involved in the WIP.

Response: Agriculture will be responsible for its sector allocation. Trading will only occur if a farm has met its sector allocation.

Comment # 200.

Commenters: C67, C68

The commenters request that cover crops be required on targeted fields.

Response: Cover crops are most strongly encouraged in areas where the greatest benefit will be derived.

Comment # 201.

Commenter: C38

The commenter supports the following comments made by EPA regarding the WIP:

- Revise nutrient management plan regulations to include non-point source agricultural implementation measures included in the WIP input deck and/or in the Executive Order 13508 Section 502 guidance;
- Require the use of cover crops; and
- Consider greater engagement with poultry integrators to find solutions to manure management, with an emphasis on alternative uses of manure.

Response: Comment refers to an internal draft EPA document.

Comment # 202.

Commenter: C33

The commenter notes that cover crops are a critical component of the WIP and asks if the options presented are sustainable and can acres planted and funds provided be continued indefinitely.

Response: Maryland's plan for cover crops acres is reasonable if funding levels are sustained.

Comment # 203.

Commenter: C33

The commenter asks how Soil Conservation & Water Quality Plans (SWQP) generate specific loading reductions and does this option, and loading reductions assigned, duplicate other practices. The commenter states that it appears many of the agricultural strategies are assigned reductions multiple times and this should be clarified in the WIP.

Response: SWQP implementation provides documentation of certain sediment control and non structural practices that farmers are employing that are not part of the list of options in the WIP and provide water quality benefits i.e., contour strips, swales, grass waterways, etc.

Comment # 204.

Commenter: C37

The commenter points out that the WIP lists specific pollutant reduction measures for agriculture but greater focus on the implementation of the activities is needed. Virtually all practices and methods to reduce nutrient and sediment pollution from agricultural lands, but the commenter asks how these will be implemented if conservation practices remain voluntary choices.

Response: The final WIP provides a greater detail of the technical resources needed to implement the plan and the personnel cost associated with the achieving the milestones.

Comment # 205.

Commenter: C50

The commenter notes that the state's goals for nutrient management include enforcement of nutrient management plan requirements on 100,000 acres still out of compliance and adoption of decision/precision agriculture on 100,000 acres in 2010–2011 and another 120,000 acres in 2012–2017. Maryland already invests significantly in nutrient management plans and implementation, as does NRCS, and these resources are helping advance clean water goals, but these same dollars could be generating much more significant and durable improvements in nutrient use efficiency and nutrient reductions. The state could realize significant reductions and do so in fiscally sustainable ways by shifting from today's generalized approach to nutrient management to a more data-driven, farm specific strategy. The commenter states the key to making is using tools that enable farmers and their advisors to evaluate how well the current plan and practices are working, identify ways to improve without compromising yields, and continually fine tune to be more efficient and cost-effective. This strategy addresses the persistent disconnect between improving nutrient management and the farmer's bottom line by enabling farmers to adapt and improve their rate, form, timing, and placement of nutrients in ways that are economically as well as environmentally beneficial.

Response: Maryland Department of Agriculture is continually striving to improve programs including nutrient management requirements to incorporate new information and technology and improve agricultural management options.

Comment # 206.

Commenters: C89, C93

The commenters support the regulation of some agriculture under the existing permitting system, however, they were surprised that Maryland takes an implicit position that agriculture is beyond further control except through funding for BMPs. Agriculture is the primary source of nutrients in many river basins. The commenters cite an MDA report stating that “while farmers have made good

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progress in reducing the amount of soil and fertilizer washing off their fields into the bay and its rivers, more pollution controls are needed on about 81 percent of all the croplands. And nearly half of the region's 4.3 million acres of croplands are critically undertreated to keep pollutants from running or seeping into nearby ditches and streams." The commenters state that the solutions proposed in the draft WIP are antiquated, and proven ineffective in previous iterations of Tributary Strategies and it does not seem logical for the draft WIP to project different results. Reducing nonpoint source loads from agricultural operations, including any necessary new regulations and better enforcement, should be part of the WIP. These must include readily enforceable mechanisms. The required reasonable assurances that Maryland will meet nonpoint source load limits dictate strong, verifiable measures to reduce agricultural nutrient and sediment loads.

Response: The report cited by the commenter evaluates agricultural management at a Bay wide scale and should not be used for critiquing individual states. Maryland farmers lead the Bay region in the adoption of conservation practices and nutrient reductions. The USDA report that is referenced also indicates that 96% of farms in the watershed have applied conservation practices, 88-90% of farmers in watershed had adoption of conservation tillage methods on some or all of their land and 87% of acres in watershed meet USDA sediment control a treatment goal.

Comment # 207.

Commenter: C83

The commenter points out that the crop yields used for current nutrient management planning and in the Bay model are substantially lower than actual State yields for corn and soybeans. If farmers are bound to nutrient management plans, they should have the most current crop yield information to help them stay viable. The commenter states that the Bay model needs to also have accurate data to be fair to the agricultural sector.

Response: This problem with the Bay Model is noted in the WIP under the contingency section.

Comment # 208.

Commenter: C81

The commenter is unclear whether CAFO operations include farmland as well as the production area in the WIP. CNMPs are required for all land where a farmer will apply manure/litter. Nitrogen allocations for CNMPs suggest that CAFOs only include the production area, but the 65 percent sediment reduction allocation suggests cropland was included.

Response: The commenter is correct. The CAFO allocation only includes the loads in the production area.

Comment # 209.

Commenter: C81

The commenter notes that the WIP states, "if an acre is reported as continuous no-till it will be ineligible for additional credits from cover crops or nutrient management planning." The commenter points out, regardless of CNC, in a year with reduced yields, additional water quality benefits would be gained from a cover crop.

Response: The WIP is noting the way the Bay Model is set up to exclude any acre that is reported as having continuous no till. In the model world you cannot, have any other conservation practice applied to an acre if the model has "credited" it for continuous no till. The State agrees that in the real world this is not the case.

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Comment # 210.

Commenter: C75

The commenter notes that in talking with members of the agricultural community, they have indicated that Stream Protection without Fencing isn't very effective as a BMP and suggests that it may be better to concentrate more efforts and monies into Stream Protection with Fencing as this method is more proven.

Response: The full definition of Stream Protection without fencing provides for remote watering, with a stream crossing and limited exclusion/fencing.

Comment # 211.

Commenter: C45

The commenter opposes mandating any specific BMP, such as cover crops, because of annual changes in weather and farm conditions and because whenever a practice is mandated cost-share disappears. Many cost-share programs, developed in the late 90s, have disappeared as nutrient management planning became mandatory and the government moved towards other priorities. The commenter states that in order to achieve the WIP goals, practices must be flexible. Farmers who are renting land cannot construct major structures, such as permanent stream fencing or buildings, on land they may not rent from one year to the next. Less expensive, but effective options must be allowed and encouraged to achieve the same results. Buffers are another practice that must be flexible since a one-size-fits-all approach will not work. The size of a buffer along streams or ditches should be specific to the circumstances on an individual farm. The commenter requests that the state to remove the provisions in the WIP that call for uniform buffers across programs and across the state.

Response: A reference in the draft WIP to “uniform buffers across all programs and across the state” could not be found.

Comment # 212.

Commenter: C71

The commenter points out that the WIP provides significant details on how the agricultural load will be addressed through a variety of strategies, which follow closely with existing federal and state programs. The agricultural strategies outlined in the WIP have been successful in reducing some of the load, however these voluntary efforts have yet to achieve the overall reductions needed in agriculturally dominant watersheds.

Response: While the voluntary efforts have been successful in reducing agricultural loads, Maryland will need to increase our efforts to meet the new mandated WIP allocations by 2017 and 2020.

Comment # 213.

Commenter: C71

The commenter states that downstream and in-ditch water quality monitoring in agricultural watersheds has indicated that nutrient management is not achieving the desired result. This program needs to be expanded to encompasses new science and require additional measures and techniques to reduce loadings. The nutrient management plan enforcement should be guided by water quality monitoring. Simple water quality monitoring for nutrients would identify watersheds where current loads are excessive relative to other watersheds in the area. This data could then guide where extensive enforcement or outreach efforts should be targeted. By targeting enforcement in this

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manner valuable staff resources can be focused on watersheds that are not meeting load reduction requirements, while encouraging the agriculture community to follow their nutrient management plan to avoid additional enforcement action. By taking a comprehensive emergency room approach—where experts would work with farmers to address the nutrient imbalances and loss of ecosystem services both on the farm and in the watershed—comprehensive effective solutions could be reached in a non-confrontational, supportive fashion. The commenter states that this approach should ensure that those farmers that are following their nutrient management plan but not seeing results get additional support from the Soil Conservation District, and farmers who are not following their plans are engaged in corrective actions.

Response: MDA and Soil Conservation Districts work closely with MDNR and MDE field monitoring staff to share data on streams and sub watershed that show excessive nutrient levels. SCD target efforts to address these “hot spots”.

Comment # 214.

Commenter: C71

The commenter states that cover crop programs are a highly used practice, however some of the current program requirements do not provide the capacity and flexibility to ensure wide spread adoption by all agricultural producers, such as aerial seeding and over-seeding existing corn crops prior to harvesting. The seeding time requirements for some cover crops do not provide the flexibility farmers need to remove the commodity and plant the cover crop. Additionally the return on investment (both time and resources) may not be sufficient enough to create enough voluntary demand to affect the greatest benefit. Creating a system where farmers are profiting from cover crops will likely lead to a more self sustaining practice that requires less government support over time. In some cases commodity cover crops are significantly more beneficial to both the nutrient balance and a load reduction standpoint and are more beneficial to the farming operation than traditional cover crops. Removing cover crop material for use as a commodity removes the nutrients from the watershed (particularly where manures are used), and allows the farmers to realize some additional economic benefit. The commenter states traditional cover crops re-introduce the nutrients when the crop is tilled under and eliminates the farmer’s the ability to improve their income stream.

Response: MDA’s cover crop program provides incentives for both traditional cover crops that are killed down and commodity cover crops that the farmers can harvest.

Comment # 215.

Commenter: C56

The commenter states that nutrient trading has failed to produce overall reduction in nutrient levels. In its 2007 Water Quality Trading and Agriculture report, the American Agricultural Economics Association argues that the “lack of documented success in water quality credit trading adds credence to the idea that there is a mismatch of theory and practice.” In fact, despite widespread efforts to stimulate a market for water quality credits, “very few nutrient credit trades have actually taken place.” The reasons for this lack of success are many, including the difficulties states have in adequately monitoring nonpoint source pollution. Additional difficulties arise from the attempt to trade between point and nonpoint sources. The draft WIP allows trading between point source and nonpoint source sources, but there is little evidence to suggest that such cross-source trading reduces pollution. The commenter states that nonpoint source pollution does not meet the definition of a tradable commodity, because the pollution is unmeasured and unquantifiable. The theory that supports water quality trading “assumes that individual polluters’ emissions can be metered accurately. [But the] essential characteristic of the nonpoint problem are stochastic, unobservable

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emissions for each individual polluting agent.” In order to begin to confront these problems, nonpoint source pollution producers, especially agricultural runoff producers, may be required to assume new regulatory burdens that may negate the cost-savings advantage between nonpoint source and point source polluters that water quality trading regimes seek to capture. The commenter points out that the Chesapeake Bay Program has found that “water quality trading programs that involve regulated point sources acquiring credits from nonpoint sources must develop acceptable procedures for dealing with differences in uncertainties with the measurement or quantification of effluent load.” But the WIP does not adequately address Maryland’s inability to adequately monitor and track nonpoint source pollution. Thus, the WIP fails to address the major hurdle to success in a water quality trading regime that includes point-nonpoint source trades.

Response: The WIP provides only an overview of Maryland’s Trading Program. For more information please visit www.mdnutrienttrading.org

Comment # 216.

Commenter: C56

The commenter states that the WIP lists use of genetically engineered crops to reduce pollution loads as a proposed action. The efficacy of these options, where available, has not been proven. The commenter points to study conducted by the Union of Concerned Scientists, the biotechnology industry has not produced any crops capable of using nitrogen more efficiently. In fact there is insufficient data to suggest any field efficacy of genetically engineering crops for nitrogen use efficiency. Controlled laboratory studies, however, produce ranges of nitrogen use efficiency equivalent to existing non-genetic engineering methods. Thus, genetic engineering does not seem as promising as currently available methods that can already beat or match controlled laboratory results. Given that the EPA has requested that Maryland determine more specific implementation plans from the options listed in the draft, the commenter requests that Agronomic Improvements is removed from the possible actions listed in Chapter Five.

Response: The option to have the Bay Model give credit for increased nitrogen efficiency from future crop varieties has no reference to genetically engineered crops.

Comment # 217.

Commenter: C85

The commenter notes that based on compliance field inspections for nutrient management requirements, 70 percent of operations are in compliance as reported on page 5-35. In comparison, the commenter estimates that less than 70 percent of sludge programs in the Piedmont and other sloping parts of the state may be in compliance. The commenter suggests that significant improvements could be made using GIS technology that could identify slopes too steep to be suitable for the application of nutrients.

Response: The Department has a very comprehensive set of management requirements for the land application of Class B sewage sludge. This includes things like seasonal restrictions on applying to certain soil types to make sure that ground water is not adversely affected, requiring auger boring to be taken prior to application to ensure a two foot buffer to ground water, requiring planting of cover crops following the application of sewage sludge during certain times of the year, restrictions on plowing during months when the ground is fallow, use of ridge tilling or application to crop residue in the winter to minimize soil loss, restrictions on slopes to minimize soil loss and the opportunity for sewage sludge runoff, frozen ground restrictions, and buffer zones to various features on a site, such as houses, wells, property lines, water bodies, drainage ditches, and public roads. Actual site

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inspections of sewage sludge utilization sites both during the permit application review process and during applications help minimize the likelihood that application to areas that are too steep for application will occur. However, it is noted that this only applies to Class B sewage sludge application sites, and not other types of nutrient applications.

Comment # 218.

Commenter: C106

The commenter applauds a proposal included in the draft WIP to create a pilot project to take advantage of the alternative uses of manure. Given the manure surplus in certain geographical areas, it is impossible to apply all of it on local crops in a way that will not result in polluted runoff. Alternative uses must be found. A competitive grant program for emerging technologies would be greatly useful, with state funds matched by money from the chicken processing companies.

Response: Maryland currently supports creation of an innovative technology fund to research new technologies.

Comment # 219.

Commenter: C105

The commenter notes that on page ES-23, *Alum Addition to Poultry Houses* is listed as a BMP for ammonia reduction to be adopted in 2012. The commenter states the inclusion within the WIP of an alum-only BMP for litter treatment of poultry houses is troubling. The commenter notes that alum is only one of several litter amendments that are used by the poultry industry for ammonia control. The Maryland NRCS 591 practice standard for *Amendments for Treatment of Agricultural Waste* lists 5 ammonia control products that are acceptable under this practice standard. (See material attached to the original comment letter.) The commenter states all five of the aforementioned products should be included in the WIP in order to give poultry farmers the range of choice. The commenter notes in the Chesapeake Bay Model, this BMP is written for an inclusion rate of 250 lbs/1,000 square feet of litter amendment. The commenter states this inclusion rate far exceeds the manufacturers' recommended application rates for maximum control of ammonia emissions and should be revised.

The commenter states currently, the poultry integrators use ammonia-binding litter amendments on farms to control ammonia during brooding as part of their good husbandry practices and the industry has a wealth of experience as to which products work consistently and reliably each time they are applied. The commenter states that because alum binds the lowest amount of ammonia of any of the commercially-available products and has stringent reaction conditions necessary for its activation, it is the least used of the products by Maryland poultry farmers. The commenter notes that all of the alum usage in Maryland is through government programs only; it is not used voluntarily. The commenter notes in the twelve month period ending October 1, 2010, 1.4 million pounds of ammonia were removed from the air in the state of Maryland due to the current voluntary usage of sodium bisulfate. Alum usage removed only 110,000 pounds of ammonia.

The binding capabilities of the various litter amendments are:

- 100 lbs of sodium bisulfate binds 14 lbs of ammonia
- 100 lbs of dry alum binds 11 lbs of ammonia
- 25 gallons of liquid alum binds 11 lbs of ammonia
- 100 lbs of acidified clay binds 13 lbs of ammonia

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The commenter states it is clear that Maryland will not meet its ammonia emission reduction goals by limiting litter amendment usage to alum only. The commenter requests that Maryland broaden the litter amendment portion of the WIP to allow all of the products approved by NRCS through the 591 standard.

Response: The option has been changed to “Poultry Litter Treatment”.

Comment # 220.

Commenters: C17, C19

The commenters ask why alum the only acidifier being suggested as a practice to reduce ammonia emissions. They state that there are four predominant litter treatments being used by the poultry industry and cost shared by USDA’s Natural Resources Conservation Service: PLT (sodium bisulfate); Klasp (ferric sulfate); Al+Clear (dry and liquid alum acid blend); and Poultry Guard (acidified clay). They note that under Eastern Shore of Maryland production practices, alum is not the most effective litter treatment for ammonia suppression. The commenters ask that the poultry industry should be given the option to select the litter amendment that best controls ammonia under Eastern Shore practices and at the lowest cost.

Response: See response to comment 219.

Comment # 221.

Commenter: C110

The commenter notes that the WIP only discusses using alum for ammonia control in poultry houses. The commenter notes there are other litter amendments that are capable of reducing ammonia emissions, such as PLT. The commenter recommends Maryland consider expanding the recommended list of amendments.

Response: See response to comment 219.

Comment # 222.

Commenter: C109

The commenter states that cover crops are an excellent BMP to reduce nutrient loss into the Bay in most years. The commenter notes cover crops are however not a cure-all and following high yielding crops may not provide the best use of funds. The commenter suggests with Option 2 that Maryland should consider establishing a contingency fund for cover crops for low yielding fields that a farmer can sign up for post-harvest in those years and for those areas of the state with diminished yields. The commenter states that farmers are extremely concerned about mandatory cover crops for several reasons; the potential loss of cost-share support, weather conditions that may prevent their planting, and the conflict in time commitment with harvesting or planting a revenue crop (corn and soybean harvest - wheat and barley planting) versus a non-revenue (usually revenue negative) cover crop planting. The commenter states that farmers have demonstrated a willingness to sign up for cover crops and plant them to the maximum extent practical for their specific operations; therefore the commenter believes that the cover crop option should remain voluntary with financial support.

Response: Maryland plans to keep the cover crop option voluntary.

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Comment # 223.

Commenter: C109

The commenter supports the enforcement of existing nutrient management laws. The commenter believes that increasing the availability for funding for University of Maryland Extension plan writers and cost share funding for commercial certified plan writers will greatly improve compliance with the existing law.

Response: See response to comment 96.

Comment # 224.

Commenter: C109

The commenter supports the development of new plans and updating of plans on Maryland farms. The commenter states these site-specific plans recognize that one size does not fit all and will establish a roadmap for each farmer to follow to meet the TMDL goals.

Response: Maryland advocates use of soil conservation plans to identify BMP opportunities and affirms that to increase SCWQ plan development will require additional agricultural technical and planning staff.

Comment # 225.

Commenter: C109

The commenter agrees with conservation tillage. The commenter states that Maryland has long been a leader in no-till but the commenter do not expect much additional Bay improvements to result from this practice as it is currently being used (and possibly not begin counted) on most crop acres.

Response: Noted.

Comment # 226.

Commenter: C109

The commenter suggests that acreages of continual no-till are probably increasing with the acceptance of fall wheat planting using no-till. The commenter states it is important that the Bay model recognizes this increased use, gives credit in the model, and allows for credit for both continuous no-till and cover crop in the same fields. The commenter states it is important to understand there will be conditions when the continuous no-till cycle needs to be broken to address another field condition.

Response: The more accurately acres under BMPs are tracked, more accurately credit can be given.

Comment # 227.

Commenter: C109

The commenter supports manure transportation. The commenter states that financial support for manure transportation to provide assistance to offset the cost of moving poultry litter from farms with excess phosphorus to those that can use the litter within a nutrient management plan is extremely important. The commenter states the best use of poultry litter is as an organic source of nutrients when applied correctly to farm fields.

Response: See response to comment 193.

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Comment # 228.

Commenter: C109

The commenter supports additional poultry litter structures on poultry farms but recommends adding a new BMP for poultry litter storage on nonpoultry farm operations, such as less permanent, less expensive systems hoop structures.

Response: MDA is currently supporting research on non-permanent structures for non-poultry farms. However, if cost share is required for their construction, state programs are currently restricted.

Comment # 229.

Commenter: C109

The commenter expressed concerns with requiring buffers on all farm ditches. The commenter states many ditches convey only in-field drainage and have little or no impact on water quality. On larger, clearly defined ditches, the commenter recommends that MDA develop a BMP and cost-share on narrow buffers on farm ditches where overland flow is minimal.

Response: MDA is considering modifications to the nutrient management regulations which will include setback or buffers for fertilizer application adjacent to waterways, including standards for drainage ditches.

Comment # 230.

Commenter: C108

The commenter, Calvert County, requests that Maryland address comments submitted by the Soil Conservation Districts in regard to best farming practices.

Response: All comments will be addressed in this document.

Comment # 231.

Commenter: C110

The commenter notes inconsistencies in the suggested setbacks for land application of poultry litter versus setbacks for commercial fertilizer. The commenter notes that the WIP suggests a 10 foot setback for commercial fertilizer and a 100 foot setback for poultry litter, which is part of the federal CAFO rule. The commenter states that nutrients in commercial fertilizer are more soluble than nutrients in poultry litter and hence both setbacks should be 100 feet.

Response: Application of commercial fertilizer is currently most likely to take place with equipment that allows more precise application placement and therefore allows a narrower buffer or set back to protect waterways. Alternative standards for manure application setbacks/buffers are currently under development for CAFOs.

Comments on Specific Strategy Options—Municipal dischargers

Comment # 232.

Commenter: C92

The commenter requests that the term “eliminate sewer overflows” be replaced with “minimize sewer overflows.”

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Response: Sewer overflows are illegal discharges and should be eliminated. EPA requires elimination of sewer overflows. As a practical matter due to circumstances beyond control, the State will end up minimizing such overflows.

Comment # 233.

Commenter: C26 MDP

The commenter notes that the State must resolve the conflict of directing growth to Priority Funding Areas serviced by WWTPs with ENR and place cap limits at these plants at the same time. The commenter asks how growth will be handled once the caps are reached.

Response: The MDE Policy for Nutrient Cap Management and Trading (see <http://www.mde.state.md.us/programs/Water/Pages/water/nutrientcap.aspx>) and the draft MDA Guidelines for the Exchange of Nonpoint Credits (see <http://www.mdnutrienttrading.com/>) provide a means to accommodate additional WWTP discharge beyond cap limits. These existing policies (in addition to other mechanisms that are not yet developed) will be used to implement the Maryland WIP accounting for growth policy. Also, the Phase II WIP process will reexamine target load allocations among point and nonpoint sources.

Once caps are reached, growth in loads would have to be offset. The State and local governments will develop offset policy in the next three years. New technology, offsets and trading would be considered as options in meeting new growth demands.

Comment # 234.

Commenter: C33

The commenter points out that the cost of upgrades to these large minor WWTPs (Activity 7 on page 5-5) seems questionable which can least afford the expense and the operation and maintenance costs may be beyond a jurisdiction's expertise and budget.

Response: That is why the specific plants weren't specified. Although they will likely need to be upgraded by 2017, it may be done in the context of a capacity upgrade or poor functioning when major upgrades will be required anyway. The WIP costs for upgrade of large minors are preliminary costs. Better estimates will be determined once facilities are selected and treatment options are reviewed by the state and local governments. Upgrade of large minors is essential in meeting statewide phosphorus load reductions.

Comment # 235.

Commenter: C33

The commenter states that increasing density within designated growth areas (sewered) is not an effective strategy for areas already projected to exceed WWTP caps and that offsets will not work. The commenter points out that individual sites could develop buildings with a smaller footprint and higher density, however, the number of units on the site could not increase without exceeding the WWTP caps. In this situation, minor reductions might occur through decreased building footprints, however, overall, a growth area will not have greater density, just more open space.

Response: These are the kind of trade-offs that will need to be made, along with possibly limiting growth. Additional research and site-specific evaluation will be needed to determine effects of the policy. See also response to comment 233 and response to comment 89.

Comment # 236.

Commenter: C48

The commenter opposes Maryland's proposed treatment of the largest minor municipal WWTPs. In order to fill the gap between current programs and the State's target loadings for nutrients and sediment, Maryland has proposed to evaluate the feasibility of upgrading five of the largest minor municipal WWTPs to ENR treatment by 2017. Although the State has not named particular plants, it has suggested that it would select plants on the basis of "load capacity needs, community interest, technical feasibility and cost-effectiveness." The State estimates that the loading reduction associated with this option would be about 45,000 pounds per year of nitrogen and costing approximately \$58 million. The commenter notes that mandating upgrades for minor municipal WWTPs would be a significant departure from the current Point Source Strategy for addresses non-significant (small) WWTPs that unless a facility is expanding, it is not required to achieve WLAs equivalent to ENR concentration levels.

The commenter opposes upgrading non-expanding, non-significant municipal WWTPs for two very practical reasons. 1) BRF is facing a shortfall beginning in 2012 and thus funding is lacking. 2) The State has not provided any evidence that these upgrades would be cost-effective as compared to other management options, which should be one of the guiding principles for developing the draft WIP.

The commenter states that the limited available funding for the Bay restoration should be invested wisely. The State appropriately excluded the non-significant WWTPs as non-significant, and that prior decision should be upheld in and WIP. Instead, the commenter encourages the State to consider other measures with lower costs and more ancillary environmental benefits and recommends that any future consideration of ENR-level WLAs and/or upgrades for non-significant plants include an evaluation of comparative cost data of various nutrient control options and an environmental review.

Response: See response to comment 234.

Comment # 237.

Commenter: C48

The commenter supports the State's plan to continue ENR upgrades at 67 of the State's largest POTWs and explains there are compelling reasons to continue and adopt this particular approach in Maryland and not consider attempting to further reduce POTW WLAs.

- POTW WLAs are set at or very near limit-of-technology levels. For example, most plants will have reduced from approximately 20 to 30 mg/L total nitrogen to less than 4 mg/L, and from approximately 6 to 10 mg/L total phosphorus to less than 0.3 mg/L. This represents a dramatic reduction from 1985 levels, more than any other sector, and will continue as ENR projects continue to be constructed in accordance with the Point Source Strategy.
- An estimated total investment of \$1.5 billion has been made or is in the process of being made to design and construct specific ENR capital projects to implement the proposed POTW WLAs. This is above and beyond earlier upgrades to BNR levels.
- Because proposed POTW WLAs are so stringent, there is limited capacity available to concentrate smart growth in existing urban areas. What limited amount that does exist must be preserved to enable smart growth and economic development in the State.
- Under proposed POTW WLAs, POTWs have very little ability to design and construct a facility capable of producing a regulatory compliance cushion to help ensure compliance despite operational variability.

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- Several upgraded POTWs are already struggling to comply with ENR treatment levels. None have experience operating in compliance with such limits at a fully loaded facility. Time is required to determine how successful these newly upgraded facilities will be in meeting ENR treatment levels under various conditions.
- Any marginal reductions in POTW WLAs would not be cost-effective due to markedly higher costs and the obviously diminishing benefits compared to the current program to reach ENR levels. Further, those scant reduction benefits would certainly be accompanied by adverse environmental impacts due to increased chemical production, transportation and use; increased energy production and use; and increased greenhouse gas emissions.
- Although the State has been working to establish a nutrient trading program, offsets are not widely available. Nonpoint source offset trading is in its infancy Bay-wide. Even if it were viable, it would certainly be extremely expensive. In the absence of a reliable trading program with reasonable costs, it is imperative that EPA and the State maintain sufficient POTW WLAs to serve future growth.

The commenter appreciates that EPA generally agrees with their position on the issue of regulatory stability for POTWs relative to EPA's recently-established WLAs.

Response: Any reductions in POTWs would likely be a result of lower flows, rather than lower effluent concentrations and would only be made with local agreement, unless EPA were to come in apply a backstop.

Comment # 238.

Commenter: C87

The commenter notes that on page 2-5, the WIP states, "The point source strategy is a two-part plan to (1) upgrade significant WWTPs to state of the art ENR technology to meet concentrations of 4.0 mg/L or less total nitrogen and 0.3 mg/L or less total phosphorus and (2) maintain the nutrient load caps for all point sources." Furthermore, the WIP states, "The annual nutrient load goals for minor facilities are based on design capacity or projected 2020 flow, whichever is less, and effluent concentration limits of 18 mg/L total nitrogen and 3 mg/L total phosphorus."

There are many sources that indicate that the current technology limits is lower than that proposed in the WIP (4.0 mg/L total nitrogen and 0.3 mg/L total phosphorus):

- According to the Chesapeake Bay Program's publication, "Nutrient Reduction Technology Cost Estimates for Point Sources in the Chesapeake Bay Watershed (November 2002)," current technology limits for significant WWTPs are 3.0 mg/L total nitrogen and 0.1 mg/L total phosphorus; for non-significant municipal facilities, technology limits are 8 mg/L total nitrogen and 2.0 mg/L total phosphorus;
- EPA is requiring technology limits (3.0 mg/L total nitrogen and 0.10 mg/L total phosphorus) as a backstop in four of the six watershed states; Maryland, however, is one of the states where technology limits is not required as a backstop; and
- Section 9VAC25-415-40 of the Code of Virginia (the Potomac Embayment standard) requires point sources discharging into the Virginia Embayment waters of the Potomac River to cap their loads at 3.0 mg/L total nitrogen and 0.18 mg/L total phosphorus.

The technology required to meet this load cap is well-tested, documented, and readily-available. The commenter notes that further reductions in WWTP loads could be gained through other means, such as water conservation/low-flow fixtures; water reuse; and repair of leaking sewer pipes.

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Response: Maryland's engineering analyses indicate that although 3.0 mg/l of nitrogen can be met, it cannot be met at reasonable cost or consistently in Maryland's climate. The increase in processing capacity to achieve 3 mg/l rather than 4 mg/l is very costly for relatively little return in terms of actual pounds reduced. Those plants currently operating with ENR technology but below their design capacity generally do achieve effluent concentrations below 4, but as they approach design flow, in colder weather, they cannot be assured of these concentrations. Permit to require that plants operate to optimize the use of the ENR technology. Going to lower effluent concentrations is a possibility to allow for future growth or as a contingency.

Comment # 239.

Commenter: C51

The commenter points out that the optional strategy to retrofit minor municipal WWTPs having flows of less than 100,000 gallons per day would appear to have very little impact on reductions to nutrient loading. Garrett County (the commenter) has three small communities providing wastewater treatment capabilities along the Upper Potomac River Basin. These facilities each serve a population of less than 300 citizens and the benefits of retrofitting the facilities for the reductions gained and the ability to absorb the costs by the users in these communities is not practical.

Response: Upgrading these plants probably won't have a significant impact on the Bay, but could make a local difference. Upgrading these plants will likely be based on site-specific decisions such as need for additional capacity, major repairs, etc.

Comment # 240.

Commenter: C57

Referring to page 5-22, the commenter states that CSO and SSO nitrogen load reductions are only provided for CSO separation in Cambridge and Federalsburg, with no reductions provided for implementation of SSO consent decrees or other CSO separations. The commenter requests that this lack of information be addressed.

Response: CSO separations completed to date were captured in the model output. Other CSO separations are planned to be completed after 2020. MDE will reflect the reductions upon completion of CSO separations.

Comment # 241.

Commenter: C44

The commenter states that Maryland disproportionately relies on upgrades to WWTPs to reach nutrient load reduction goals in the WIP. The commenter believes that upgrades to WWTPs are important in reducing discrete, point sources. However, the commenter notes this remediation remains expensive. Current estimates are that the Bay Restoration Fund will begin experiencing a deficit as soon as 2012 and will be short by over \$500 million. The Bay Restoration Fee needs to be doubled in order to avoid this structural deficit and we recommend that the State take the necessary steps to make that happen.

Response: There is sufficient funding to enable the upgrades to continue through 2011, and the BRF shortfall will be addressed by 2012. The Bay Restoration Fund committee will propose options on addressing BRF shortfalls.

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Comment # 242.

Commenter: C92

The commenter is concerned that MDE is currently requiring some minor facilities to upgrade via permit renewals without access to BRF funding and with no apparent cost effective review. Users pay into the fund but are not provided with the funding to cover the upgrades and additionally pay a high cost per pound of nutrients removed. These facilities should be provided funding if upgrades are required.

Response: The minor facilities have not been identified in the WIP because no decisions have been made as to which plants will be upgraded. Cost-effectiveness will be part of that decision. BRF currently funds ENR upgrade of significant WWTPs, which initially was a voluntary program. MDE offers other funding assistance such as low interest loans and Supplemental Assistance grants for the upgrade of minor facilities required by MDE. MDE requires upgrade of both minors and majors to address NPDES permit violations or meet local water quality impairments.

Comment # 243.

Commenter: C54

The commenter points out that although the reduction of nitrogen load is significant when WWTPs with ENR technology are used instead of septic systems (even with BAT), unless a public sewer system is easily or readily accessible, economic impacts are the limiting factor for using the public system. Properties within the development envelope that may still be on septic systems should be the first priority to connect to the public system. Expansion of the development envelope is a matter of planning, which requires a complicated process that involves land owners, developers and governmental agencies but, nonetheless, should be the next priority where an increase in population is projected.

Response: These issues will be addressed through Phase II and afterward because, as the commenter note, the issues are complicated. In Phase II WIP, local governments will have an opportunity to develop priorities for meeting needed nutrient load reductions. MDE supports connection of homes served by septic systems to public sewer to address public health issues, and where it's readily accessible and promotes smart growth. See also response to comment 115.

Comment # 244.

Commenter: C95

The commenter supports the submitted comments by the Washington Suburban Sanitary Commission for WWTPs of nitrogen, phosphorous, and sediment loads. Specifically, the commenter requests the WLAs for the Seneca WWTP to reflect the recently approved NPDES permit at 26 MGD with a WLA of 316,738 lbs total nitrogen and 21,563 lbs total phosphorus. The commenter commends MDE for their continued support for the WLA strategy for significant municipal WWTPs. The commenter states this consistent strategy promotes continued progress in meeting the waste load allocations for these facilities on the expedited schedule they have supported.

Response: The referenced information is addressed in the final submission.

Comment # 245.

Commenter: C88

The commenter states that Allegany County currently has six sanitary districts under Consent Orders to rehabilitate sewerage systems. Several municipalities in Allegany County are also under Consent

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Orders. The commenter cites studies for Allegany County, the City of Cumberland, and the City of Frostburg showing that an enormous amount of funding will be required. The commenter notes that the WIP will add more upgrade requirements. The commenter states that reasonable assurance needs to be more realistic than the current Consent Order situation, which has left compliance unattainable for the commenter's jurisdiction.

Response: A consent order is a legal mandate and will need to be addressed. It exceeds the standard of reasonable assurance.

Comment # 246.

Commenter: C91

The commenter notes that in Section 5.2.1 *Municipal and Industrial Wastewater*, on page 5-19, subsection A, a reference is made to a deficit in the BRF beginning in FY2012. The commenter points out that there is no discussion in the WIP on what impacts this deficit will have on future septic system upgrades or connections to sewer.

Response: Septic upgrades are funded through a separate portion of BRF, collected from septic owners. Upgrade in Critical Area will require additional funding. Maryland anticipates addressing the deficit or falling back to local funding enforced through the permit process. See also response to comment 115.

Comment # 247.

Commenter: C91

The commenter notes that on page 5-20, subsection B, *Minor Industrial Dischargers* and page 5-21, *Large Minor Municipal Treatment Plants*, that the gap closing strategy is to evaluate facility categories, achieve reduction, and evaluate the feasibility of upgrading five of the largest minor municipal WWTPs. The commenter states that just evaluating feasibility will not achieve load reductions. The commenter requests the strategy require upgrade of the five largest minor municipal WWTPs to ENR.

Response: Because upgrades to plants are not very cost effective, a study is planned to find the most cost effective solutions. Upgrade of minors is necessary to meet the phosphorus load reduction goals.

Comment # 248.

Commenter: C82

The commenter (Frederick County) states it should have no difficulty complying with the TMDL and WIP at this time in regards to WWTPs; however, if there is a need to upgrade and increase the capacity of a WWTP should arise, there may be total nitrogen and total phosphorus loading caps that would need to be met that may require BNR or ENR treatment at these WWTPs.

Response: Agreed.

Comments on Specific Strategy Options—Industrial dischargers

Comment # 249.

Commenter: C26

The commenter notes that there is a lack of communication from MDE regarding industrial stormwater permits and potential impacts to water quality from unpermitted businesses. The WIP

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needs to identify strategies that increase communication with jurisdictions and provide training to County staff

Response: If the commentor is aware of a specific unpermitted business and location meeting the classification listed on MDE's website at <http://www.mde.state.md.us/programs/Permits/Documents/2008permitguide/WMA/3.03.pdf>, then the Department would be very interested in the information and will follow up. Otherwise, it is MDE's understanding that County staff are generally familiar with the requirements, but that they do not have direct enforcement authority for such discharges.

Comments on Specific Strategy Options—Onsite wastewater treatment systems

Comment # 250.

Commenter: C8

The commenter suggests that Best Available Technology (BAT) systems for on-site wastewater systems are not a good reduction strategy as they merely transfer “X” pounds of nitrogen into the air, from which a percentage deposits back into the bay similar to vehicular nitrogen emissions. The commenter points out that BAT systems are costing homeowners while “making a few people very wealthy.” These BAT systems could also cost a homeowner \$140 a year in electrical costs. He states BAT systems require a large amount of parasitic power consumption. For example Hoot brand BAT systems use “only the same amount of kilowatts as a light bulb” (a 100 watt light bulb uses 876 kilowatts per year) which would still translate into carbon dioxide and nitrogen emissions from the power plant.

Response: BAT systems convert the nitrogen in sewage effluent to N₂ which is an inert form or nitrogen gas that will not contribute to pollution entering the waters of the State. The nitrogen that goes into the air is N₂ gas, which already comprises 80% of air and does cause eutrophication. The nitrogen from vehicular emissions is NO₃, which does cause problems.

Comment # 251.

Commenter: C28

The commenter asks who is responsible for retrofitting older private on-site facilities that provide little if any water quality treatment. There may be legal issues that would prevent local governments from requiring a property to retrofit a facility that was approved at the time of development.

Response: It is a legal requirement in the critical area. Maryland is exploring the necessary changes in Code that could require retrofitting existing septic systems with BAT.

Comment # 252.

Commenter: C33

In regards to Activity 3 on page 5-7 (septic hookup to ENR plants), municipalities have identified areas that are expected to hook up to a public sewer system when the land is annexed to the municipality through the process of developing the Municipal Growth Element. Any other systems have either not been planned for service and/or will not be in an area developed densely enough to make the cost of extending services and hookups feasible.

Response: Water and sewer plans can be amended to include areas that are densely developed and served by septic systems, to be sewer service areas. Maryland is working to identify such areas. See also response to comment 115.

Comment # 253.

Commenter: C33

The commenter notes that it would be helpful to clarify if requiring BAT for septic systems within 1,000 feet of streams refers to all (including existing) septic systems or just new septic systems, in Activity 5 on page 5-7. This activity would be an extremely difficult task to implement and achieve legally, technically, and financially. In addition, the commenter states that upgrading septic systems to ENR standards may be cost prohibitive depending on the number of systems and that any upgrade to better treatment is a positive. Funding should be available for upgrades even if not to ENR.

Response: It is proposed to upgrade septic systems to the best available technology for removing nitrogen (BAT), not ENR standards. At this point in time BAT usually results in a 50 percent removal of nitrogen. The difficulties with requiring upgrades of existing septic system have been noted.

Comment # 254.

Commenter: C87

The commenter states that the use of individual onsite systems must not be prohibited by MDE. Rural areas in Maryland not serviced by sewer must have alternatives allowing for planned growth. Residential development is one of the main revenue generators in rural areas and prohibiting this source of revenue will result in the inability of smaller jurisdictions to pay for necessary clean up costs. In addition, the commenter requests that the WIP acknowledge that alternative systems, such as a shared system or package plant, are viable alternatives to individual systems. Such alternative should be specifically allowed if they are shown to reduce nitrogen effluent. Lastly, cost consideration should be included for areas of failing septic systems or areas of special concern to be provided hook up to a wastewater treatment plant.

Response: There is no intent, and has been no discussion of prohibiting on-site systems. Maryland does consider shared or community systems as a viable alternative to individual systems and sewer extensions. See also response to comment 115.

Comment # 255.

Commenter: C87

The commenter notes that on page 2-9, the WIP states, “this approach ensures that 98% of Maryland’s annual runoff is managed by state-of-the-art stormwater management practices.” The commenter states that this passage is misleading. The new regulations will only ensure that new development and redevelopment is managed by SWM facilities, not existing development. According to the Phase 5.3 model (dated 7/21/2010), development accounts for approximately 1.2 percent of all Maryland urban land per year. Therefore, the commenter suggests this statement read either, “This approach ensures that 98% of new annual runoff in Maryland is managed by state-of-the-art stormwater management practices”; or “This approach ensures that approximately 12% of Maryland’s annual runoff will be managed by state-of-the-art stormwater management practices by 2020.” This is an important distinction as the WIP statement insinuates that the management of all urban stormwater can easily be accomplished with the implementation of ESD, when this is not actually the case. In fact, by 2020, ESD regulations will have only covered approximately 12 percent of all developed land.

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Response: The commenter has taken the phrase "98% of Maryland's annual runoff" out of context. Maryland's WIP clearly states that the ESD to the MEP approach applies specifically to "[a]ll development that received local plan approval after May 4, 2010."

Comment # 256.

Commenter: C61

The commenter notes that currently there is a limited effort to extend sewer service along Maryland Route 8 to southern Kent Island to an area now served by onsite septic systems in Queen Anne County, similar to the septic upgrades to ENR plants option on page ES-17 of the WIP. Although onsite systems are estimated to discharge up to 40 mg/L of nitrogen per day while our WWTP treated sewage has an effluent of 4 mg/L per day, the infill that will result from the availability of public sewer service would ultimately be detrimental to the island and the Chesapeake Bay watershed. The resulting increase in greenhouse gas emissions, air pollution, and increased runoff from additional impervious areas from new construction would offset the positive effects to the TMDL allocations that sewer connections would provide to this area of Queen Anne's County. The commenter states that there are unintentional, but inevitable, negative environmental effects of programs to mandate septic hookups to ENR plants when the systems are in fragile, low-lying areas close to Chesapeake Bay that have significant numbers of lots that cannot receive building permits for onsite systems.

Response: Comments noted.

Comment # 257.

Commenter: C108

The commenter states that initial results of the model indicate that septic systems are a very significant source of nitrogen loading in Calvert County. As the Calvert County develops its Phase II WIP, the County will consider reducing the nitrogen loading from septic systems. The commenter suggests the approaches may vary by watershed and should not be prescribed at this time. The commenter suggests that the following three activities should not be required in the Phase I WIP but be included in the contingency measures.

- Septic hookups to ENR plants: Connect failing septic systems to WWTPs with advanced nutrient removal technologies.
- All systems in the Critical Area: Require all septic systems in the Critical Area use best available technology for nitrogen removal. Cannot complete by 2017, but shows potential or can accelerate as contingency.
- All systems within 1,000 feet of a stream: Require that all septic systems within 1,000 feet of a stream use best available technology for nitrogen removal.

Response: The final Phase I WIP identified septic hookups to ENR plants based on ongoing projects which are scheduled to be completed by 2017. It also requires 70% of septic systems in Critical Area to be upgraded with BAT. A requirement to upgrade all septic systems within 1,000 feet of a stream was removed as an option from the final WIP. In Phase II, local governments will have an opportunity to reallocate load allocations among sources and to select local strategies to meet their target allocations.

Comment # 258.

Commenter: C51

The commenter points out that the optional strategy of requiring all septic systems within 1,000 feet of any stream to use BAT for nitrogen removal is not practical. Two-thirds of the land area of Garrett County is situated outside of the Bay watershed. The commenter assumes that any regulatory program

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imposing the 1,000 foot rule would apply uniformly throughout Garrett County and the corresponding nutrient reductions from its jurisdiction could not apply solely to the Bay watershed. Additionally, the level of development activity generated within that portion of Garrett County situated within the Bay watershed is extremely limited. Only 2,371 housing units currently exist within the portion of Garrett County draining to the Bay. The predominant land use in those tributary watersheds is forest cover with a substantial percentage of the land is public ownership. New development activity in those tributaries is extremely limited and the reduction in nutrient loading resulting from imposition of the 1,000 foot rule would be inconsequential.

Response: This option was removed from the final WIP.

Comment # 259.

Commenter: C57

The commenter notes that text on page 5-32 says “within 1,000 feet of a stream” and suggests that text should read “within a 1,000 feet of tidal waters.” With regard to upgrading septic systems within 100 feet of a stream, the commenter states that this should be limited to only those systems (as a first priority) below reservoirs. To date, local TMDLs for reservoirs in Baltimore County have not found nitrogen to be a limiting resource, and therefore the reservoirs are not impacted by nitrogen levels. Because of water withdrawals for public drinking water and the treatment effects of the reservoir themselves, the nutrient and sediment loads above the reservoirs are reduced in terms of their impact on the bay.

Response: The referenced strategy is not being considered in the final WIP.

Comment # 260.

Commenter: C75

The commenter points out a suspected error on page 5-32, bullet D. The commenter suggests that an extra "0" was left out of 1,000.

Response: The referenced option was removed from the final WIP.

Comment # 261.

Commenter: C92

The commenter believes that given the costs of BAT nitrogen removal systems the strategy to require all septic systems within 1,000 feet of a stream to use these systems should first be considered for new and replacement systems on a Statewide basis before requiring existing, functioning systems be replaced with the nitrogen removing systems.

Response: See response to comment 259.

Comment # 262.

Commenter: C91

The commenter recommends that MDE acknowledge that all septic systems, whether they are considered failing or not, contribute nitrogen load at delivery ratios of 80 percent in the Critical Area, 50 percent within 1,000 feet of non-tidal streams and 30 percent all other areas. The commenter suggests that to maximize returns on investment and ensuring better decisions on using of BRF funds, grants, loans, tax incentives and private sector investment, MDE should require determination of those septic systems that clearly lend themselves to connection to ENR water reclamation facilities, cluster systems, and BAT nitrogen removal system upgrades.

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The commenter states that close coordination between MDE and local governments is necessary. The commenter notes MDE, in collaboration with local governments, can help them to be more successful in their pursuit of the design and construction of infrastructure required to connect septic systems to point sources or convert them BAT systems. The commenter believes this can be achieved with a significant leveraged investment of private sector dollars from septic system communities connecting to point source WRF's or point source cluster systems. The commenter states using technologies operating at ENR levels maximize the net load reduction of nitrogen. The commenter suggests revenue generated through the BRF needs to be increased to ensure that septic initiatives are achievable.

Response: Agreed, comments noted. See also response to comment 115.

Comment # 263.

Commenter: C86

The commenter states that septic upgrades and hookups to WWTPs will be required to meet nutrient reduction goals and that 1,000 septic systems in the State's Critical Area are slated for upgrade by 2012 and 7,000 septic hookups to WWTPs are scheduled by 2012. Since the Western shore tributaries are required to make the greatest reductions in nutrient input, the commenter requests that these tributaries be given the highest consideration for septic upgrades and septic hookups to meet these goals.

Response: There was some modification in the final submission. See also response to comment 115.

Comment # 264.

Commenter: C75

The commenter points out that pages 5-7 and 5-32 reference hook-ups for 930 failing septic systems to ENR WWTPs. The commenter asks if this is an estimated number or number of known systems currently failing and not yet hooked up.

Response: The number is estimated.

Comment # 265.

Commenter: C75

The commenter asks what happens to BRF systems after 5 years and can credit still be taken for them if their proper maintenance and operation is not verified. Some homeowners may take the responsibility on themselves depending on the type of BAT installed but it is doubtful many of them would be willing to pay out of pocket for continuing service. The WIP references a forecasted shortfall in BRF money for FY2012 but looking into state-funded continuing service of these systems after the five year maintenance period is over may be prudent.

Response: The State is looking into best methods for ensuring maintenance of BAT in perpetuity.

Comment # 266.

Commenter: C92

The commenter states that when tracking nutrient reductions from septic tanks, consideration should be given to the portion of the nutrients that are pumped out of tanks and taken to a WWTP, thereby adding to the WWTP loading and reducing the plant's usable capacity.

Response: Good point. This needs to become a part of the accounting and tracking system.

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Comment # 267.

Commenter: C54

The commenter states that unless 100 percent funding is made available to homeowners for failing existing septic systems outside the Critical Area, that BAT should not be forced upon these homeowners, which are often income-limited. For those property owners with existing septic systems or failing septic systems who want to voluntarily upgrade their septic tanks to BAT systems, the funding should continue to be income based.

Response: Funding is always an issue. This will be worked out during and after Phase II.

Comment # 268.

Commenter: C78

The commenter questions the WIP's support for connecting failing septic systems to WWTPs, particularly in the Critical Area. Under the state's *Smart Growth* policies, development is directed to areas served by sewers. Thus, adding sewer capacity in the Critical Area could channel additional development to the same environmentally sensitive areas the state promises to protect and restore.

The commenter states that decisions about extending sewer service should be made on a case-by-case basis, on the basis of an assessment of environmental impacts and benefits. In the commenter states that new sewer connections should not be allowed in the Critical Area except in cases where the added capacity would have a negligible effect on the development potential and ecological integrity of the area being served. If sewer service extension is the only feasible way to address widespread failures, state or local governments should mitigate the ecological risks by purchasing development rights or attaching new restrictions on development in the Critical Area.

Response: The Department of Planning is very focused on these issues and they will be address through the Accounting for Growth policy development that will occur over the next several years and be implemented by 2013. Maryland is evaluating areas where connecting septic systems to ENR WWTP can be accomplished while minimizing collateral growth. See also response to comment 115.

Comment # 269.

Commenter: C85

The commenter notes that on page 2-8, Maryland requires all septic systems serving newly constructed buildings, and all replacement septic systems in the Critical Areas to include nitrogen removal upgrades. It is estimated that this requirement will result in 500 septic system upgrades per year. The commenter points out that systems for new construction even with upgrades will increase nutrient loading, just less than they would have without the upgrades.

Response: Yes. Other offsets will be required.

Comment # 270.

Commenter: C94

For page 5-32, the commenter states that while septic hookups to ENR plants are potentially very effective, gaining property owner acceptance is a major obstacle to implementation.

Response: Understood.

Comment # 271.

Commenter: C101

The commenter referenced the January 2009 and 2010 Annual Status reports which state that there are over 50,000 septic systems within the Maryland Chesapeake Bay Critical Area. The reports also state that annual replacements and/or upgrades are approximately 500 units a year with the rate of replacement matching funding provided by the Bay Restoration Grant (BRG) Fund. The commenter notes that the *Summary Table of Actions* component of the draft WIP acknowledges this level of effort by stating that 535 systems are to be replaced using BRG funding and that 90 additional systems will be upgraded through the use of surplus funds after all priority applications have been addressed. The commenter notes that the Phase I WIP calls for a 38 percent reduction in nitrogen loads from septic systems. The commenter notes that MDE estimates that there are 420,000 such systems in the state and 51,000 of them are within the Critical Area. The commenter asks if the goal will be met if 38 percent of the septic systems in the state reached a total annual nitrogen load of less than 1 pound per year. If so, the commenter notes that would equate to nearly 160,000 systems, or more than three times the total number of septic systems in the Critical Area alone. The commenter expresses that the state does not have the money to embark on such a plan and the WIP does not offer any alternative. The commenter asks if a 38 percent reduction in nitrogen loading from septic systems is a realistic assumption.

Response: A 38 percent reduction in nitrogen from septic systems is a goal that can be accomplished but may require changes in Statute and funding availability. The strategy was modified in the final submission.

Comments on Specific Strategy Options—Urban (including MS4s)

Comment # 272.

Commenter: C18

The commenter agrees and supports regulating fertilizer applications on 220,000 acres of managed lawns (for example, golf courses and athletic fields) through Maryland's Nutrient Management Law. He also agrees and supports increasing the types of non-agricultural land that must meet urban nutrient management standards. He notes that expanding turf nutrient management to individual homeowner lawns is a difficult issue, but his organization is willing to participate in such discussions.

Response: Specific strategy and policies will be developed during Phase II.

Comment # 273.

Commenter: C23

The commenter notes that Option 3 for MS4 Phase II communities is to require 20 percent restoration/retrofit of the impervious surface that does not already have stormwater controls in smaller jurisdictions subject to Phase II MS4 permits. He points out that while it is undeniable that retrofitting the existing, impervious surface constructed prior to any stormwater management requirements may provide some measurable benefit to the TMDLs, the hurdles encountered will be substantial and, in the vast amount of cases, impossible to overcome.

For example, the commenter states that for a municipality such as Bel Air, which has developed over decades with little regard for stormwater management before the mid 1980s, attempting to institute management practices across 20 percent of a fully urbanized environment would be enormously costly placing an undue burden on the Town and its taxpaying citizens. Undeveloped open space

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suitable for the construction of facilities to capture and treat runoff and which is jurisdiction owned is essentially non-existent. The small amount of undeveloped land that is within the town is privately owned and valued for commercial or residential development rendering it too costly for the local government to economically purchase for SWM purposes. Increasing the requirements for treatment associated with redevelopment as mandated in the new 2009 stormwater management regulations will help to gradually bring developed properties into the higher level of compliance needed to help meet these TMDLs. Given the constraints noted above, this is the only viable option in upgrading the treatment in established urban locations.

Response: Many Phase II MS4 counties and municipalities have commented on Maryland's WIP strategy, which proposes to add a permit condition for the stormwater restoration of 20% of a jurisdiction's impervious area with little or no stormwater management. Similar comments were also received from smaller urban areas not currently regulated by the Clean Water Act (CWA). These unregulated areas have been identified in the WIP for possible NPDES designation. A summary of the most recurring comments from Phase II and smaller urban jurisdictions include; the significant cost of providing stormwater restoration for 20% of a jurisdiction's impervious area by 2017; the lack of technical expertise to carry-out these projects; the cost of stormwater retrofits verse other less costly water quality improvement projects; and the inherent constraints of providing stormwater BMPs in an already-built urban environment. Many of these same comments have been voiced by the larger Phase I MS4s in recent years, which have been meeting with MDE to provide better guidance and greater flexibility in complying with these significant permit requirements. Based on these important comments from numerous local government officials, Maryland has added specific details in its final Phase I WIP addressing levels of implementation, cost, and flexibility in meeting permit conditions. A summary of these issues is provided below.

MDE recognizes the inherent constraints of implementing stormwater retrofits in the urban environment. As a result, the list of stormwater-related projects that will be available for credit has been greatly expanded from traditional ponds and wetlands to a more dynamic and growing list of water quality improvement projects. These can include redevelopment, stream restoration, regenerative stormwater conveyance, street sweeping, inlet and storm drain vacuuming, litter control, environmental site design, and forest and streamside tree buffer plantings. Many more are under consideration and can be found in Maryland's WIP.

Recently, the SHA has estimated two scenarios for meeting the 20% impervious surface restoration requirement; one using traditional stormwater retrofits and another using the flexibility provided by MDE. The flexibility in implementing other less costly water quality improvement projects has led to an estimated 67% reduction in the cost that will be incurred by the SHA in meeting permit conditions. When Maryland's Phase II MS4 general permit is reissued, it will include both impervious surface restoration requirements similar to those currently required by Phase I MS4s and the flexibility in implementation so that costs may be controlled. At this time, MDE has not decided to permit smaller unregulated areas as MS4s but has estimated pollutant load reductions associated with these areas should further gap closing options be necessary.

Comment # 274.

Commenter: C26

The commenter questions how Refined Urban Nutrient Management of commercially managed turf and homeowner lawns can this be enforced and tracked. The commenter recommends an education & outreach campaign.

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Response: Education and outreach will certainly be a component, but also application criteria, licensing and inspections.

Comment # 275.

Commenter: C26

The commenter supports the Rural Residential Tree Planting strategy provided a funding source can be identified and an outreach campaign can be developed. The commenter also supports strengthening the Forest Conservation Act and the use of forest mitigation banks along with using natural filters on public land that would encourage participation with universities, schools, local parks and recreation land, and institutional land.

Response: Noted.

Comment # 276.

Commenter: C26

The commenter notes that MDE Water Management Administration is working with the Phase I MS4s to standardize and quantify impervious area restoration. Each jurisdiction has taken credit for restoration differently and it is likely to reduce the amount of overall restoration completed to date and impact the current capacity identified within the WIP. The commenter suggests that recommendations for requirements for MS4s program should be based on the standardized methods and the ability to achieve the restoration proposed.

In addition, the commenter states that the most time consuming portion of a restoration project can be coordination of permits through MDE along with mitigation requirements that conflict with restoration goals. These issues need to be rectified before restoration can be accelerated.

Response: Many Phase I MS4 counties have commented on Maryland's WIP strategy to include between 30% and 50% stormwater restoration of impervious acres with little or no stormwater management. A summary of the most recurring comments include; the significant cost of providing stormwater restoration for between 30% and 50% of a jurisdiction's impervious area by 2017; the lack of standard stormwater restoration accounting procedures in MS4 permits; the cost of implementing traditional stormwater pond retrofits verse other less costly water quality improvement projects; and the inherent constraints of providing stormwater retrofits in the urban environment. MDE has been meeting with the MS4 Phase I community to provide further guidance and flexibility in complying with these significant permit requirements. Based on these important comments from numerous local government officials, Maryland has added specific details in its final Phase I WIP addressing the standardization of restoration accounting, levels of implementation, cost, and flexibility in meeting permit conditions. A summary of these issues is provided below.

There has been a growing recognition by many federal, State and local officials to standardize the accounting of stormwater restoration practices required in NPDES stormwater permits. Providing standardized accounting procedures will ensure the fair implementation of stormwater permit requirements among jurisdictions. Also, standardization will provide local governments with a known target for planning and budgeting to meet permit conditions and Chesapeake Bay stormwater waste load allocations (WLA). MDE has proposed that stormwater retrofits should be designed to manage 1 inch of runoff for water quality using Maryland's Stormwater Design Manual. Retrofit projects that make sense to implement but can not be sized to meet the full 1 inch design criteria can be pro-rated for credit based on the runoff volume that the facility is capable of managing.

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Many Phase I commenters noted that providing traditional stormwater retrofits (ponds and wetlands) in the urban environment is both costly and, often times, constrained. MDE recognizes these costs and constraints, and has decided to greatly expand the list of stormwater-related practices that will be available for credit. These include redevelopment, stream restoration, regenerative stormwater conveyance, street sweeping, inlet and storm drain vacuuming, litter control, environmental site design, and forest and streamside tree buffer plantings. Based on the monitoring of these practices and pollutant load efficiencies, "equivalent" impervious acres restored are being determined to guide local governments in meeting permit conditions for restoring impervious acres. A full discussion of this process and other water quality improvement projects currently under consideration can be found in Maryland's final Phase I WIP.

Recently, the SHA has estimated two scenarios for meeting the 20% impervious surface restoration requirement; one using traditional stormwater retrofits and another using the flexibility provided by MDE. The flexibility in implementing other less costly water quality improvement projects has led to an estimated 67% reduction in the cost that will be incurred by the SHA in meeting permit conditions. This flexibility will allow each jurisdiction to select a locally-preferred list of BMPs that will provide the maximum water quality benefit toward meeting stormwater WLAs while at the same time containing cost to the greatest extent possible.

Comment # 277.

Commenter: C26

The commenter notes that the milestone for MS4s focuses solely on stormwater management retrofits on developed land and the strategy focuses on percent impervious surface. The milestone and strategy need to be based on the same method of measurement or the method for conversion needs to be included in the WIP. In addition, the commenter suggests that either a separate milestone should be added for non-structural restoration activities or the existing milestone should be updated to include non-structural restoration. The MS4 milestone states "construct stormwater runoff retrofits on 90,000 acres of developed land." The commenter asks if this means an additional 90,000 acres between 2011 and 2017 and how do these numbers compare to the table on page 2-11.

Response: The 2-Year stormwater milestone was established in 2009 and proposed that 90,000 acres of impervious surfaces in Maryland with little or no stormwater management be restored by the end of 2011. The Table on page 2-11 has been updated to include the latest number of acres restored.

Comment # 278.

Commenter: C26

The commenter states that on page 5-24, it is unclear which option was used to calculate the anticipated load reduction for MS4 Phase I requirements.

Response: Option 1 was used. The information will be stated more clearly in the revision.

Comment # 279.

Commenter: C26

The commenter states that not all stream restoration projects meet Regenerative Stormwater Conveyance (Table 5-1) system requirements but do provide significant reductions in in-stream bank erosion. Credit for stream restoration and streambank stabilization practices should be included in the WIP.

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Response: Stream restoration projects and streambank stabilization will be credited under the MS4 program as alternatives to traditional stormwater management practices and the Chesapeake Bay Program (CBP) is currently developing efficiencies for these types of projects.

Comment # 280.

Commenter: C26

The commenter suggests that for MS4s, the measure of restoration should be based on water quality improvements and not a surrogate parameter such as impervious restored areas. Water quality improvements should be placed in areas with the most need for restoration which may not coincide directly with impervious area.

Response: MS4 permits are based on meeting water quality criteria, which are the basis of local and regional TMDLs. The 20% impervious surface restoration requirement provides an easily understood surrogate that is being used in MS4 permits to dictate the pace of restoration work necessary for meeting the Chesapeake Bay stormwater WLAs by 2020.

Comment # 281.

Commenter: C26

The commenter notes that for MS4s, it is conceivable that nutrient load reductions could be achieved at a lower impervious treatment level and asks if MS4 permittees would be held to the percent impervious treatment levels.

Response: At this time, none of Maryland's Phase I or Phase II MS4s have met all local and regional stormwater WLAs and permits will continue to be issued with significant stormwater restoration requirements. If at some time in the future, a locality can show that all TMDLs, stormwater WLAs for all parameters, and local water quality goals have been met, the MS4 permits will then be used to maintain water quality. At that time, as the commenter notes, the restoration of a certain percent of a jurisdiction's impervious surface area may not be necessary.

Comment # 282.

Commenter: C26

The commenters note that MS4 permittees have been struggling to develop load reduction estimates for various practices that are consistent and defensible, particularly for non-structural BMPs. Because this methodology is still being developed, the "credit for existing actions" (page 8-6) may be subject to modifications. The commenter asks that this be clearly noted within the WIP.

Response: The Bay Program has a process to establish efficiencies for new approaches. As the necessary data are developed, these methodologies can be submitted for approval.

Comment # 283.

Commenter: C28

The commenter notes that the majority of properties in Gaithersburg were developed prior to 1985. The City only owns 10 percent of the land within city limits and has no legal authority to force improvements on privately owned property. Many areas, both public and private have existing conditions such as steep slopes and/or shallow storm drains which can make retrofits expensive. The City has numerous streets with no public right-of-way beyond the pavement. The proposed retrofit requirement of 20 percent by 2017 is not financially feasible, and presents significant technical problems as well.

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Response: The referenced information will need to be addressed through Phase II and the permitting process. The City is encouraged to participate in the Phase II WIP process. See also response to comment 281.

Comment # 284.

Commenter: C49

The commenter is concerned that the proposed retrofit/restoration requirements for urban stormwater to be imposed upon localities through Maryland's WIP may result in unaffordable or otherwise unattainable legal requirements. The commenter notes that the State proposed three options for Phase I MS4 permittees. Option 1 would require that all Phase I MS4s retrofit/restore 30 percent of existing untreated impervious area by 2017. Option 2 would increase the retrofit/restoration percentage to 40 percent. Option 3 would increase the percentage to 50 percent. Likewise, the Draft WIP proposes to establish a mandatory 20 percent retrofit/restoration requirement for all Phase II localities. There are no alternative options presented for Phase II communities. EPA has largely adopted Maryland's Draft WIP approach and only established "minor-level backstops" meaning that EPA has only made minor adjustments to Maryland's nonpoint source allocations, but has made no changes to point source WLAs.

The commenter disagrees with the State's approaches in that cost simply has not been considered or factored into the WIP. Local governments continue to suffer with tightening local budgets and reduced revenues. Maryland's local governments are in no position to fund an expensive and mandatory restoration/retrofit program that must be completed within the next nine years. The commenter asks how much it will cost to implement Maryland's urban restoration/retrofit proposal.

The commenter, Stormwater Association of Maryland, submitted a Technical Memo along with their comments. The memo is by a national engineering firm with expertise in stormwater management and estimates urban stormwater costs for Bay TMDL implementation on an annual per household cost basis. The analysis developed cost estimates to restore 50 percent of existing untreated impervious area over a 15 year term. The result was an annual per household from \$678 per year in 2011 to \$1,717 in 2025. The Technical Memo's cost estimate is only for urban retrofits; it does not include costs for stormwater management in unregulated areas or other costs associated with existing MS4 programs. Thus, total stormwater management cost increases would presumably be considerably higher factoring in increasing requirements of MS4 permits, costs of implementing other TMDLs beyond the Bay TMDL, and generally increasing liability for infrastructure renewal.

The commenter notes that EPA has estimated that the cost for urban stormwater control may be \$7.9 billion per year for the Bay TMDL watershed in the document: *Next Generation of Tools and Actions to Restore Water Quality in the Chesapeake Bay*. Additionally, the Center for Watershed Protection has estimated urban retrofit costs at approximately \$88,000 per acre.

The commenter states it is unreasonable that the Draft WIP that would mandate major increases in Phase I MS4 restoration/retrofit and the establishment of similar requirements for Phase II MS4 permittees. The commenter requests the State conduct thorough cost/benefit and affordability analyses before adopting a final WIP with restoration/retrofit requirements beyond current permit requirements, in addition to working closely with localities to define a reasonable approach and manageable level-of-effort that is affordable at the household level.

Response: Cost will be factored in during the Phase II process. Increased flexibility to use non-structural practices has been added into the approach to stormwater to increase feasibility and decrease costs. See also response to comment 281.

Comment # 285.

Commenter: C91

The commenter, Anne Arundel County, notes that Section 5.2.2 (*Urban Stormwater Loads*) proposes progressively more stringent requirements for retrofit/restoration of impervious surfaces to meet the 2017 goal for nonpoint source stormwater. The commenter states the 2020 goal would increase to 60 percent or 70 percent, depending on the option selected from page 5-23. The commenter states it is unrealistic to propose retrofitting an additional 20 percent, 30 percent, 40 percent, or 50 percent of the unmanaged impervious area between 2011 and 2017 or 2020 when the County has struggled to retrofit 10 percent of their unmanaged impervious area over a 5 year period.

The commenter's current MS4 Phase I permit requires a 10 percent impervious area restoration followed by an additional 10 percent restoration of the remaining impervious area. The commenter's draft 4th generation permit requires restoration of 20 percent of the County's impervious surface area that is not already restored to the MEP (i.e., lands developed prior to 2002). The commenter notes that the WIP requires restoration of pre-1985 developed lands (or alternative strategy). The commenter states that there needs to be consensus on which lands are to be targeted pre-1985 or pre-2002 developed lands.

Response: See response to comment 281. Also, stormwater retrofits should be implemented when and where there are significant opportunities to improve water quality and both Maryland's MS4 permits and the Phase I WIP allow any land developed prior to 2002, when state-of-the-art stormwater controls were mandated statewide, to be retrofit and credited.

The current strategy calls for 20% for the next permit period, plus completion of any of the prior 10% requirement not completed. The remaining 20% will be completed in the second permit period.

Comment # 286.

Commenter: C91

The commenter notes that the WIP includes a proposed goal of 2 linear miles by 2017 in the *Regenerative Stormwater Conveyance* section and states that this goal is low. On the basis of the commenter's experience a significantly greater number of linear miles is achievable by 2017.

In addition, the commenter, Anne Arundel County, is interested in learning more about the workgroup convened by the State to evaluate this strategy, and to define designs to yield pollution reduction and habitat creation or improvement. The commenter would like to applaud the State for moving in this direction and the commenter is keenly interested in submission or a proposal (by the State) to the CBP for approval of this technique as a BMP.

Response: Regenerative Stormwater Conveyance systems are an alternative stormwater management BMP that may be implemented toward meeting the County's NPDES stormwater restoration requirements. MDE will work with Anne Arundel County in accounting for these practices and getting an efficiency credit from the Chesapeake Bay Program.

Comment # 287.

Commenter: C71

The commenter does not agree with MDE suggesting that if the 2017 milestone is not met, the impervious cover treatment requirement could be increased to an additional 30–50 percent. During the redevelopment process opportunities for expanded stormwater management are significant; however traditional retrofitting in existing communities is much more difficult. In our experience

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working with jurisdictions it is very difficult to treat 20 percent impervious in all watersheds. While some watersheds lend themselves to retrofitting due to level and age of development, topography, and soil type, other watersheds may be extremely difficult to retrofit for the same reasons. Even in watersheds where 20 percent of the impervious area receives treatment through stormwater retrofits, these practices often do not treat the full water quality volume. Since finding cost effective retrofit projects to treat 20 percent of the impervious areas is so difficult, the commenter asks how a jurisdiction can provide 50 percent treatment on impervious cover within a 5 year permit window regardless of the definition of treatability.

Response: Increased flexibility to meet the stormwater goals has been added in the final submission and will be discussed through Phase II. See also response to comment 281.

Comment # 288.

Commenter: C88

The commenter notes that an option is to extend MS4 type permits to smaller urban areas and to retrofit/restore 20 percent of the impervious surface that does not already have stormwater controls; however the commenter notes the strategy option does not define what a smaller urban area is. The commenter asks if there are smaller urban areas in Allegany County. The commenter states localities are not provided with the tangible information to determine whether reasonable assurance can possibly be met by their jurisdictions. The commenter quotes the draft WIP which states “following the public comment process, a selection of reduction strategies that meet the 2017 goal will be made, resulting in the development of revised interim target loads that reflect those strategies.” Referencing the strategy, the commenter states that localities have no say in whether their smaller urban area can commit to an MS4 permit. The commenter states the final WIP might choose this strategy and it may or may not apply to localities. The commenter would like the opportunity to comment once this decision is made.

Response: All urban areas with concentrated stormwater runoff are considered MS4s by the CWA, however, smaller urban areas have been waived from the federal regulation. The State and EPA have the right to designate these dischargers though if it is determined that they impact water quality. Maryland has not decided yet whether to permit currently unregulated urban areas but has provided analysis of pollutant load reductions from these areas as a potential gap-closure option. If a decision is made to designate these smaller urban areas as regulated MS4s, restoration requirements would likely resemble those currently being issued to Phase I and II MS4s in Maryland. All local jurisdictions will have an opportunity to comment on designation and any future permit conditions.

Comment # 289.

Commenter: C91

The commenter states that on table C in the Executive Summary, the capacity increase necessary to meet final nitrogen target loads may be underestimated for urban stormwater. Also, Table C notes that, under current state-wide capacity, it would take 40 years to meet the target load; but an increase of 3 to 4 times that capacity would provide achievement by 2020. In reality, the most cost-effective and readily achievable urban stormwater retrofits will be completed first; thus, the remaining work needed to meet the 2017 and 2020 targets will likely have exponentially increasing costs, both human and financial, and be exponentially more difficult to accomplish.

Response: The State is hoping for new methods or increased efficiencies by 2017. New methods or increased efficiencies is why the phased approach was developed.

Comment # 290.

Commenters: C65, C70

The commenters agree with the state's goal of retrofitting 30 percent untreated impervious surface by 2017 in municipalities with a MS4Phase I permit, but they request that details be supplied for how this will be achieved. For example, Charles County, which governs three-fourths of the Mattawoman Creek watershed, is required by its MS4 to retrofit 10 percent every 5-year permit cycle, but is far behind in this requirement.

Response: The referenced information will be worked out in Phase II. Also see response to comment 281.

Comment # 291.

Commenter: C57

The commenter states that the ability of Phase II MS4 jurisdictions to start from scratch (new restoration requirement) and achieve a 20 percent retrofit target by 2017 and a 40 percent retrofit target by 2020 (bringing them to the level of the Phase I jurisdictions) will be extremely difficult. Smaller jurisdictions may lack the adequate staff with sufficient technical expertise to be able to implement a restoration program of this magnitude. In addition, it will take time to set a program up, including, acquiring the funding, staff, and contracts for design and construction. There was no indication of the level of technical assistance that the State will be providing to bring the Phase II jurisdictions up to speed. The commenter suggests that the state should dedicate technical assistance to the Phase II jurisdictions.

Response: The commenter's suggestion will be difficult. Smaller jurisdictions should be considering additional staff needs to meet the restoration requirements in their next budget.

Comment # 292.

Commenter: C57

The commenter points out that three levels of implementation are proposed, 30 percent, 40 percent, and 50 percent retrofit of all pre-1985 urban land by 2017, and 60 percent or 70 percent by 2020, as discussed in the WIP on pages 5-22 through 5-24. The current level in the Baltimore County permit is retrofitting 20 percent. Baltimore County is close to meeting this level of effort, but it required 15 years of restoration work to achieve the 20 percent. The next round of the NPDES permit for Baltimore County is expected to require a 30 percent retrofit effort by 2015, and a 40 percent retrofit effort by 2020. Both of these levels will require an increase in the current effort. An increase in the level of effort beyond the 30 percent by 2015 and 40 percent by 2020 will greatly exceed the current level of effort and could be beyond the capabilities of most local governments.

The commenter states that it is not clear if the projected nitrogen load reductions are based on 30 percent implementation rate or one of the higher rates. While the connection between the annual reduction rate and the 2012–2017 load reduction is apparent ($49,775 \times 5 = 248,875$), the 2012–2020 load reduction seems to low ($49,775 \times 8 = 398,200$) versus the 355,200 stated. The commenter points out that there is no indication of the cost for this level of implementation.

Response: 10% was to have been completed under previous permits, and 20% will be required in the next permit, which will bring us to 30% by about 2015. The following permit will achieve an additional 20% from 2015 to 2020 if needed.

Comment # 293.

Commenter: C32

The commenter notes that the draft WIP includes the Montgomery County final permit, which provides a useful insight into the county's delegated enforcement authority. For example, the county "shall conduct preventative maintenance of all stormwater management facilities at least on a triennial basis" and make annual reports of enforcement and compliance activities. The commenter states the draft WIP does not disclose the estimated funding and personnel gap and does not explain how this gap will be filled to ensure that the state has and maintains an effective stormwater program.

Response: State law currently requires that stormwater BMPs be inspected at least once every three years and that they be maintained in accordance with State requirements. MDE conducts local program review to ensure that effective stormwater management programs are being implemented statewide and provides technical assistance and outreach. Since this has been a requirement since the mid-1980s, it should have already been funded.

Comment # 294.

Commenter: C34

The commenter notes that most of older communities in their area were built without stormwater control systems and these carry pollution-laden sediment into the Severn River and contribute to the pollution of the Chesapeake Bay. They are concerned how Anne Arundel County will approach this problem and undertake the needed retrofits of almost all the stormwater systems in the older neighborhoods with technology such as Regenerative Stormwater Controls that slow down the rainwater and enable it to infiltrate. The Planned Activities under the Urban Stormwater part of the WIP only set broad goals such as "installation of stormwater controls on 40 percent of the impervious surface" without stating how that goal would be achieved. What is missing is the identification of funding sources to accomplish these Activities, and the current Anne Arundel County Capital Budget cannot support this commitment. The commenter agrees with the EPA's comments on this section of the WIP, that it needs much more specificity to define the goals, how they will be accomplished, and how to measure the results. This is a very important part of the WIP, and more detail is needed to ensure the goals can and will be accomplished so the highly negative impact of stormwater on our rivers is reduced.

Response: Maryland recommends the development of stormwater utilities to provide funding. Increased specificity will be developed during Phase II. See also response to comment 281.

Comment # 295.

Commenter: C33

The commenter suggests that specifics regarding the changes in the NPDES Phase II permits and funding mechanisms should be provided as part of the Phase I WIP.

Response: MDE plans to propose specific NPDES Phase II permit requirements in its Phase II WIP.

Comment # 296.

Commenter: C33

The commenter has several comments on Urban Stormwater stating on page 5-5.

- Option 1: The commenter states this requirement will be an extreme challenge to most jurisdictions since retrofits can cost \$20,000/impervious acre.

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- Options 2 & 3: The commenter states these options are not feasible in the designated timeframe.
- Activity 4: MS4 Phase II – The commenter states that the proposed 20 percent level may not be achievable in the timeframe designated and there will be significant cost and resource issues.
- Activity 11: Urban Tree Canopy – The commenter asks how this will provide any benefit to nitrogen loading reductions.

Response: The State and EPA understand the challenge. A system to track implementation and pollution load reductions will be developed. If the milestones are not met, alternatives will be considered.

Comment # 297.

Commenter: C87

The commenter notes that on page 2-9, the WIP states, “Stormwater Watershed Implementation Plans: Provide water quality improvement projects for 10% of a jurisdiction’s impervious surfaces based on TMDLs and local watershed assessments during each five-year permit cycle.” Maryland’s proposal to meet the Chesapeake Bay TMDL by 2020 only allows for two five-year permit cycles. The commenter notes that the cost to retrofit 40 percent of Maryland’s impervious area could be as high as \$24.6 billion. Similarly, the cost to retrofit 10 percent could be as high as \$6.2 billion during each 5-year permit cycle. The commenter recommends implementing the most cost-effective strategies during each of the permit cycles. In addition, the commenter recommends that Maryland pursue passage of a stormwater utility fee to be implemented by local jurisdictions to create funding source for retrofits.

Response: A utility can currently be developed by local jurisdictions and they are encouraged to do so. Mandatory utilities are a contingency in the final submission.

Comment # 298.

Commenter: C87

The commenter notes that one of the planned activities on the Summary Table of Options for Nitrogen Reduction is to extend MS4 type permits to smaller urban areas and to retrofit or restore 20 percent of the impervious surface that does not already have stormwater controls. The commenter states that it is unclear how MDE can create a mechanism for oversight of unregulated rural areas in the State in a manner similar to an MS4 permit. The commenter would assume that implementation of the Phase II MS4 permits at the county level will result in local action to reduce all loading sources without the need for additional regulation.

Response: The authority is called residual designation. The EPA administrator can require such controls if existing controls are not sufficient to meet water quality standards.

Comment # 299.

Commenter: C87

The commenter notes that planned activities for existing Urban Nutrient Management Law and Refined Urban Nutrient Management would provide wider regulation of fertilizer applications for large tracts of land such as golf courses and athletic fields and increasing the types of non-agricultural land that must meet urban nutrient management standards. The commenter agrees with these activities and recommends that MDE support legislation and regulation to restrict the application of

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non-commercial fertilizer, require the use of slow release nitrogen fertilizer and require the University of Maryland to revise their standards and specifications for non-commercial fertilizer application.

Response: These strategies have been added to the final submission.

Comment # 300.

Commenter: C87

The commenter requests that the Urban Stormwater section include a section specifically on redevelopment that outlines incentives and technology options to maximize the potential for these types of projects.

Response: Redevelopment is included as an alternative stormwater restoration practice for MS4 permit compliance. See responses regarding Phase I and Phase II MS4 permits and Maryland's updated WIP.

Comment # 301.

Commenter: C73

The commenter states that urban erosion and sediment control reductions will only be achieved if inspection and enforcement are increased. The best approved erosion and sediment plan is only good if the site is inspected and controls are enforced. Training for erosion and sediment inspectors should be handled through Soil Conservation Districts, MDE, and counties. The commenter suggests that inspectors are trained annually.

Response: Local erosion and sediment control programs are delegated by the State and there is a process for rectifying program deficiencies during the delegation review process. Local programs that do not meet State standards can be denied delegation and the State will take over the inspection duties in those jurisdictions.

Comment # 302.

Commenter: C51

The commenter states that the potential cost burden of mitigating existing older urban areas developed prior to modern stormwater requirements will be much greater than for more recently developed areas, much of which constitutes the low density, land intensive patterns commonly associated with sprawl. Since Smart Growth principles promote higher density development concentrated in long-established urban areas, a TMDL load limitation requirement that encourages or incentivizes alternative patterns of development would seem contrary to Smart Growth principles.

Response: The accounting for growth policy, to be developed over the next few years will try to address that issue. MS4 permits are not contrary to Smart Growth but are complimentary with local governments receiving restoration credit for redevelopment.

Comment # 303.

Commenter: C51

The commenter points out that a potential implementation strategy, in the WIP, is to apply standard MS4 permit conditions to smaller urban areas. The commenter questions what constitutes a smaller urban area and how might this strategy affect the small municipalities in Garrett County with populations between 500 to 2,000 citizens and total budgets of less than \$100,000.

Response: The referenced option was dropped from the final submission but would have included areas not covered under Phase I or Phase II MS4 permits.

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Comment # 304.

Commenter: C83

The commenter references that the WIP cites improvements that will be gained from urban nonpoint sources by implementation of the Stormwater Management Act of 2007 and revisions to the erosion and sediment control standards. Maryland has historically been the leader in this area, but we continually fail to improve compliance in the field. Good and reasonable enforcement of erosion and sediment control and maintenance of stormwater management structures will have a much greater impact on water quality than new and enhanced standards.

Response: See response to comment 301.

Comment # 305.

Commenter: C62

The commenter states that emphasis should be placed on enforcement of existing sediment and erosion control laws.

Response: See response to comment 301.

Comment # 306.

Commenters: C55, C81

The commenters state that the dates given for the adoption of new erosion and sediment control standards are not accurate. The standards and associated regulations will not go into effect until at least January of 2012. The commenters point out that the status of enforcement of existing erosion and sediment control laws and regulations both from MDE and local jurisdictions is not addressed in the strategy document.

Response: Maryland's Phase I WIP has been updated to include the latest status of implementing the new standards and specifications for erosion and sediment control.

Comment # 307.

Commenter: C59

The commenter (City of Cumberland) notes that according to the draft Phase I WIP, a potential implementation strategy is to apply standard MS4 permit conditions to smaller urban areas. The commenter asks in regards to this statement.

- What constitutes a smaller urban area?
- How would this strategy affect Cumberland which is currently operating under a CSO consent decree with MDE that runs to 2023?
- If additional requirements will be applied to the Cumberland through other regulatory mechanisms, how will that affect the City's current consent decree?
- Will it be subject to renegotiation by the City if other regulatory requirements impair the City's authorized capacity under the consent decree to issue sewer connections?

Response: The referenced option was dropped in the final submission. It would have applied to jurisdictions not covered under Phase I or II MS4 permits.

Comment # 308.

Commenter: C57

The commenter states that Phase II jurisdictions will have trouble achieving goals on pages 5-24 and 5-25, unless the state plans to provide the staffing and funding and there is no indication, in the WIP, how these goals will be done. The commenter questions if the state will expand the current MS4 program to permit small jurisdictions and if so, what would be the timeline for the regulations, and how will that translate into being able to meet a 20 percent retrofit goal by 2020.

Response: A part of Phase II will be development of funding strategies. Additional staff and/or contractors will need to be a part of that thinking. Also see response to comment # 281.

Comment # 309.

Commenter: C57

The commenter, Baltimore County, agrees that better numbers are needed for the effectiveness of stream restoration, greater emphasis should be placed on regenerative stormwater conveyance (stormwater restoration) on pages 5-26 and 5-27. The CBP has recognized stream erosion as a major component of the urban sediment and nutrient load through modification of the loading rates for impervious surfaces. While the scale of the model is too coarse to adequately provide a reliable percentage of the urban load attributable to stream restoration, there are studies that indicate that up to 70 percent of the sediment may come from stream channel erosion in urban watersheds. Stream restoration also addresses other impacts to aquatic communities such as habitat degradation, temperature, and urban infrastructure that damaged by stream erosion. The commenter notes that Baltimore County has averaged approximately 2.5 miles of stream restoration over the last 12 years. This restoration measure should be increased. Section 5 included a discussion of ensuring that double reporting occurs with other restoration activities. The commenter supports not double counting restoration activities, although stream restoration is a large part of the County compliance with the MS4 permit restoration requirements. The commenter asks if by separating stream restoration as a standalone component is Maryland no longer permitting stream restoration to count for compliance with the MS4 Permit.

Response: Stream restoration will be allowed as an alternative stormwater management retrofit and credited toward NPDES MS4 restoration requirements. The State will work with Baltimore County and the CBP's Urban Stormwater Work Group to develop appropriate pollutant load reductions for these practices. Refined data gathering procedures implemented at the State level and GIS spatial analysis will reduce the likely-hood of the double-counting of BMPs.

Comment # 310.

Commenter: 92

The commenter notes that the WIP suggests changes in a jurisdiction's MS4 permit to require a minimum retrofit/restoration of 30 percent of the impervious surface in their jurisdiction that do not have stormwater controls. The commenter suggests that the WIP clarify that the impervious area in the retrofit/restoration of impervious surface calculation is only that covered by the MS4 permit. For example, in Howard County not all of the impervious area in the County flows through the County's storm sewer system and may result in less impervious area being treated than the WIP anticipates.

Response: Other MS4 dischargers in Howard County like the Maryland State Highway Administration and other State and federal property owners will have similar impervious cover

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restoration requirements, making a County-wide restoration estimate of 20%, regardless of property owner, reasonable for modeling purposes.

Comment # 311.

Commenter: 92

The commenter, Howard County, estimates of the cost of retrofitting the 30 percent of the unmanaged impervious area in the County and obtained a range of \$160 million to \$875 million. This represents from a 10-fold to over a 50-fold increase in their current annual expenditures for restoration activities without considering long term annual for inspection and maintenance costs of these BMPs. The commenter expresses further concern about resources required, including the resources required for implementation, design and construction capacity available in the consultant and construction contractor communities, as well as increases in government agency staffing to manage and permit these projects.

Response: A funding strategy will be part of Phase II. These are legal mandates under the Clean Water Act.

Comment # 312.

Commenter: C94

The commenter suggests that the use of State Highways Administration (SHA) lands for added tree canopy appears to have potential for meeting acreage goals for tree canopy increases.

Response: SHA is considering that as part of their strategy.

Comment # 313.

Commenter: C34

The commenter noted that the WIP addresses re-establishing filters along the shorelines in the section on “Natural Filters on Private Land” but only applies this to agricultural lands. The Activities of “Streamside Grass Buffers” and “Streamside Forest Buffers” should also apply to residential lands on watersheds like the Severn River that have been extensively developed with lawns going down to the shoreline. Anne Arundel County should be encouraged to adopt programs that, with the reward available funds through phased-in requirements, would effect a transition of the shoreline back to natural filters that would reduce the nitrogen and phosphorus running off these yards right into the Severn River.

Response: Natural filters on private lands will be allowed as an alternative stormwater management retrofit in MS4 permits and Chesapeake Bay TMDL accounting. This BMP and the flexibility for MS4s to use this BMP have been included in the Maryland's final Phase I WIP.

Comment # 314.

Commenter: C91

Regarding Table 5.1 and the corresponding table on page ES-15, the commenter states:

- The Urban Stormwater Options for MS4 Phase 1 are daunting. The commenter states implementation of Options 2 and 3 are not only over and above current MS4 permit conditions but would provide a significant financial hardship on local jurisdictions.
- MS4 Phase I jurisdictions are coming to a final consensus with MDE on how to credit urban stormwater retrofit projects as *impervious acres restored*. The commenter states these retrofit requirements do not directly tie into the required load reductions, but are a surrogate measure

for the implied load reduction on the basis of impervious surface reduction. The commenter asks “Is this the correct and/or the only surrogate that should be considered?” The commenter suggests retrofit projects should be tracked according to their pollutant load reduction using either accepted BMP efficiencies or monitored data.

- Implementation of the increasingly stringent requirements in Options 2 and 3 does not seem to be tied into the MS4 permit condition for watershed assessments. The commenter notes these progressively stringent retrofit requirements compound those already required by MS4 permit. The commenter states there is no clear connection between the impervious surface retrofit requirement and the MS4 Phase I required watershed restoration plan (or TMDL implementation plan). The commenter suggests the WIP impervious surface retrofit requirement could encourage stormwater retrofit in areas with no designated use impairment or may under-restore areas having actual impairments but less impervious acres.

Response: MS4 permits require that local comprehensive watershed management plans should be developed for the entire jurisdiction and these plans and local water quality goals will help to dictate where water quality improvement projects are implemented. In most cases, BMPs will benefit both local and the Chesapeake Bay's water quality. Also, see comments above regarding Maryland's Phase I MS4s.

Comment # 315.

Commenter: C91

The commenter, Anne Arundel County, notes that Section 5.2.2 (*Urban Stormwater Loads*) that there is no recognition of water quality benefit from those practices installed prior to 1985 (or 2002) that, while designed for quantity management, may have naturally evolved to provide a water quality benefit (e.g., dry pond to wet marsh). Additionally, there is no recognition of water quality benefit of non-traditional BMP practices installed pre-1985 such as open section road, nor of the disconnected impervious surface associated with large lot/rural development. The commenter states the impervious area targeted for restoration (i.e., pre-1985 or pre-2002) should be consistent between WIP Phase I, Phase II, and MS4 permits.

Response: Improvements prior to 1985 that can be documented can be credited. If non-traditional practices have an efficiency they can be credited. If they don't, then data will have to be provided and reviewed so that an efficiency can be officially attributed. Permits will reflect the TMDL. f Anne Arundel County can inspect and document BMPs that provide water quality that were built before 1985, they may claim these BMPs for credit toward NPDES stormwater permit conditions and stormwater WLAs.

Comment # 316.

Commenter: C108

The commenter, Calvert County, may use techniques described in the EPA guidance to MS4 permits (<http://cfpub.epa.gov/npdes/stormwater/munic.cfm>) to in its Phase II WIPs, but states that requiring an MS4 permit for the County would not be a cost effective approach to reducing pollution from urban areas. The commenter notes to expend funding and resources (staff time and implementation funding) to meet a MS4 permit would reduce funding and resources necessary to meet the required load reductions from the TMDL. The commenter requests that issuing MS4 permits to small non-MS4 urban areas be removed from the Phase I WIP or only considered as a contingency measure.

Response: Expansion of the MS4 program beyond the Phase I and Phase II counties was not included as a strategy in the final submission.

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Comment # 317.

Commenter: C108

The commenter suggests that more actions be added to reduce the amount of nutrient loading from lawn fertilization including regulating the types of fertilizer available for purchase and citizen outreach and education.

Response: The referenced information was extensively discussed by the Bay Cabinet and enhanced in the final submission.

Comment # 318.

Commenter: C71

The commenter states that the MDE is assuming that adding a requirement in the MS4 permits to provide treatment of 20 percent of the impervious cover will result in the attainment of the WLAs. In fact there is no relationship between percent impervious cover treatment and load reduction. This has been problematic in existing permits and MDE is just starting to meet with permittees to reach a consensus on the definition of treatability or the effectiveness of various treatment practices. The commenter points out that under current permits, Jurisdiction A and Jurisdiction B may achieve the same level of treatment and have widely different load reductions depending on the underlying assumptions they have used.

Response: MDE understands that the practices to address runoff from impervious surfaces do reduced pollutant loads, particularly for phosphorus and sediment. The assumptions as to reductions will be based on the Bay Watershed Model and will be consistent across jurisdictions.

Comment # 319.

Commenter: C71

The commenter states that retrofitting greater than 20 percent of the impervious areas in the MS4 Phase I communities may not be cost effective; identifying retrofits in the Phase II and non-MS4 communities may be more cost effective and provide greater watershed benefit. These communities in many cases contain areas of large imperviousness but often have more space and more favorable conditions to retrofit existing impervious areas. To evenly spread the responsibility to the different source sectors based on reducible load, suburban and non-regulated areas must be held accountable for their impact due to impervious surfaces. Stormwater requirement for smaller community might be significantly less due to the size of the community, but they should participate in retrofitting and load reductions at a level commensurate with their impact. The commenter suggests that combining portions of Options 1 and 3 in the *Urban Stormwater* category would be a preferred approach.

Response: The State looked at the benefits of retrofits in non-MS4 jurisdictions and found them to be minimal. Other practices such reduced fertilizer use, low phosphorus and slow nitrogen release fertilizers will be more important in the non-MS4 areas.

Comment # 320.

Commenter: C71

The commenter states that a percent treatment requirement does not provide enough guidance to municipalities for what is expected to meet the TMDL. It is impossible for any budget analyst to project a five-year budget without a more concise requirement that can be equated to a specific number of management practices. While the MS4 permits require the development of implementation plans to achieve the waste load allocations associated with TMDLs, there is no time frame required

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for the implementation schedule. In addition, using the percent treatment of impervious cover severely restricts the capacity of the jurisdiction to meet the waste load allocations. This requirement assumes that retrofitting is the major practice that will meet the load reductions. The fact is that urban areas are difficult to retrofit. Practitioners have found that the practical limit for retrofitting an existing community is probably less than 20 percent. The effectiveness of those retrofits is at best 50 percent in reducing nutrient loadings. The commenter asks how this practice will help meet target loads.

Response: The requirements for the WIP need to meet the interim implementation target by 2017. In addition, early in the Phase II process, milestones for 2012-2013 will need to be established. This will provide the necessary detail for a budget analyst. It is most likely in fact, that the milestones will be determined in conjunction with the budget analyst.

Comment # 321.

Commenter: C71

The commenter states that relying solely on retrofits discourages offset programs. For instance, how would a jurisdiction take credit for stream restoration practices or implementing programs such as urban nutrient management? At a minimum, jurisdictions should be able to apply for partial credit for other beneficial practices. Adding specific load reductions requirements with a timetable provides the basis of a currency of exchange within a jurisdiction.

Response: Jurisdictions will not be held to retrofits alone. The plan provides flexibility.

Comment # 322.

Commenter: C53

The commenter points out that urban tree canopy is defined as 100 trees per acre, which appears to be from the State's Forest Conservation Law definition of forest, which is not the same thing as urban tree canopy, and is inconsistent with most protocols which calculate urban tree canopy by percent coverage. The document *Urban Tree Canopy Goal Setting - A Guide for Chesapeake Bay Communities* (http://www.dmorgangrove.net/MorganJUTC-FOS_files/UTC_Guide_Final_DRAFT.pdf) refers to canopy goals as percent coverage and does not mention trees per acre. Many jurisdictions throughout the urbanized areas of the region are moving forward with canopy assessments and goal setting with the help of University of Vermont Spatial Analysis Lab. Metrics should stay consistent with these efforts. In addition, by reducing canopy coverage to trees per acre, it is possible that a forested area that concentrates a large number of trees in a relatively small part of a city could cause the canopy goal to be met even though potential planting areas throughout the rest of the city remain without canopy cover. The commenter states that in order to maximize benefits to water quality, urbanized jurisdiction need to set realistic canopy coverage goals based on existing canopy and on potential planting areas rather a generic number of trees per acre.

The commenter believes urban areas should be well defined since some define urban areas as downtowns, others define them as downtowns plus suburban areas, and others call the entire Baltimore-Washington corridor urban. Without defining what urban areas are, it will not be possible to distinguish between urban tree canopy from truly forested areas, which provide the most water quality benefits.

Response: The 100 trees per acre (tpa) reflects the fact that 100 mature trees per acre generally gives full canopy coverage with substantial canopy overlap. It is reasonable to expect that 100 larger trees typically planted in urban settings would be generating at least an acre of canopy cover. Actual sizes will vary based on species, soil productivity, porosity, drainage, slope, sunlight, pests and diseases. It

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is helpful to be consistent when possible, but the 100 tpa reflects biological potential more than Forest Conservation Act (FCA) requirements. The FCA definition requires additional minimum diameter measurements not typically available either through remote sensing assessment or planting reports.

Urban tree canopy can continue to be assessed remotely as % canopy cover at intervals (e.g., five years, assuming new LIDAR and NAIP data are available), and Maryland fully supports ongoing development of urban tree canopy assessment technology. The 100 tpa standard is a reasonable and efficient approach for tracking progress in planting to supplement the broader UTC assessments.

Comment # 323.

Commenter: C53

The commenter states that the process and methodology for crediting pollution reductions through redevelopment should be clear. One goal of redevelopment is to do it in a way that maximizes the reduction of stormwater pollution loads from pre-existing conditions through innovative design. Pollutant reductions that result from this approach need to be credited in the TMDL implementation process.

Response: Crediting re-development will be dependent on site-specific conditions, but will be credited toward the allocations. In fact, to support Smart Growth, Maryland is anticipating as significant amount of re-development.

Comment # 324.

Commenter: C86

The commenter expresses concern that no regenerative stormwater conveyance systems are slated for the current 2 year milestone and requests that of the 2 miles planned in the next five years, a good portion will be constructed in the Severn River watershed. The commenter states that these systems have proven to be very effective in reducing the flow of stormwater into surface waters.

Response: Regenerative stormwater conveyances are an acceptable stormwater retrofit BMP and are encouraged where appropriate and can be used by Anne Arundel County to meet its significant MS4 permit requirements for impervious area restoration.

Comment # 325.

Commenter: C82

The commenter states that significant increases to the requirement to retrofit untreated urban impervious areas are considered in the WIP. Permits currently require an additional 10 percent every five years. Tripling or quadrupling this effort, as mentioned in the table on page ES- I 5, poses several issues. MDE recently held a meeting with Phase I MS4 municipalities to determine how to credit retrofit projects and discussed several options, including retrofitting water quality to the maximum extent practicable, retrofitting to the 1 inch storm, retrofitting to the Maryland 2007 stormwater regulations, and retrofitting to forested conditions. In an example if 0.6 inches of rainfall is the maximum extent practical for water quality due to site constraints, the commenter asks would the project be treating a full acre of retrofit due to MEP requirements, 60 percent of an acre using the 1 inch requirement, or some other proportion of an acre. The commenter state that if entire acre is not counted as treated, we will run out of acres to treat before we have hit 100 percent retrofit and if the entire acre is counted as treated, then we may reach 100 percent retrofit before we have restored designated uses. This illustrates how the retrofit requirement does not tie directly to the nutrient

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reductions required to correct the designated use impairments. The commenters request that this requirement be eliminated, and projects be tracked through to their reductions using monitoring data and/or numbers accepted by TMDL model.

Response: The request will need to be worked out through the accounting and tracking system.

Comment # 326.

Commenter: C82

The commenter states that the retrofit requirement disregards watershed assessments that are required by NPDES MS4 Phase I permits that look at the sources of designated use impairments and develop watershed restoration projects to correct the impairments; thus, there is no clear connection between the stormwater management facility retrofit requirement and the designated use impairment. The stormwater manager is encouraged to retrofit in areas with no impairment, and may under-restore areas with actual impairments in trying to meet this requirement. The commenter states it would make more sense to be held directly to the MS4 allocations in the TMDL than to have a secondary requirement that does not directly tie into the designated use impairment.

Response: The relationship between the designated use impairment and the retrofit requirements are clearly defined. The designated use is aquatic life (dissolved oxygen and clarity standards) in Chesapeake Bay. The retrofit requirements are to repair the damage done to Bay water quality by increases in impervious surface that result in erosion of stream beds and banks, prevent infiltration of nutrients that could be absorbed by plants and/or denitrified, and modify the hydrology of the entire watershed.

MS4 permits require that local comprehensive watershed management plans should be developed for the entire jurisdiction and these plans and local water quality goals will help to dictate where water quality improvement projects are implemented. In most cases BMPs will benefit both local and the Chesapeake Bay's water quality.

Comment # 327.

Commenter: C82

The commenter notes the following text on page 2-10 and described on page 5-23 states: “A key goal of the Bay restoration strategy will be to install stormwater controls (retrofits) and water quality improvement projects on land that was developed prior to the implementation of Maryland’s Stormwater Management Law in 1985, and enhancing water quality for early BMPs implemented between 1985 and 2002.”

The commenter points out that:

- There is no recognition of the water quality benefit of practices installed prior to 1985, such as open section roads, and there is an unclear recognition of benefits from 1985–2002.
- This requirement adds additional retrofit requirements to MS4 permits in addition to the 30–40 percent retrofit requirement discussed as a gap closure measure, as it effectively increases the number of untreated urban acres.
- This requirement disregards the watershed assessments that are required by NPDES MS4 permits that actually look at the sources of designated use impairments and develop watershed restoration projects to correct the impairments; thus, there is no clear connection between the stormwater management facility retrofit requirement and the designated use impairment. The stormwater manager is encouraged to retrofit in areas with no impairment,

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and may under-restore areas with actual impairments in trying to meet this requirement. This encourages jurisdictions to meet the letter but not the spirit of the regulations.

Response: MS4 permits require that local comprehensive watershed management plans should be developed for the entire jurisdiction and these plans and local water quality goals will help to dictate where water quality improvement projects are implemented. In most cases BMPs will benefit both local water quality and the Bay's. Also, see responses above regarding Phase I and Phase II MS4 permits and updated financial analysis in Maryland's final Phase I WIP.

Comments on Specific Strategy Options—Forest

Comment # 328.

Commenter: C6

The commenter points out that mitigation banks commonly operate on rural land which has low development potential and is generally far removed from areas where the development it will mitigate is occurring (oftentimes a different watershed).

Response: The TMDL requires that local water quality standards must be met in each watershed. Also the state's wetland and forest conservation laws generally have a hierarchy that requires: 1) protection on site; 2) replacement onsite; 3) replacement offsite in the same watershed; 4) replacement offsite and occasionally out of the local watershed and 5) options to pay into a mitigation bank or fee in lieu fund. Mitigation banking and receiving areas are generally in locations that create the greatest benefit to habitat and the ecosystem function.

Comment # 329.

Commenter: C9

The commenter thinks that the strategy discussed in Chapter 5 concerning amending the State's Forest Conservation Act to require a no net loss of forest standard is an excellent idea, but it's effectiveness could vary tremendously depending upon where the referenced mitigation banks are established. If they can somehow be targeted to or coupled with a policy to replace agricultural operations in key critical locations (e.g. on soil that is over-saturated with nutrients, farms in the Critical Area, etc...) she believe Maryland can go a long way to achieving its nutrient reduction goals identified in the WIP.

Response: The State is currently focusing mitigation in areas that provide the greatest benefits to local water quality and the Bay. When mitigation occurs on agricultural land, Maryland focuses on the most sensitive and at-risk lands and attempt to leave the most productive lands in agriculture.

Comment # 330.

Commenters: C20, C23

The commenters point out that the state is implementing urban tree canopy goals—defined as at least 100 trees to an acre—on the basis of reasonable expectations in gains by accounting for available lands and hydrologic flow paths in urban areas. The intent of the urban tree canopy was to target half of the older developed areas, particularly those developed prior to stormwater management, where urban trees may be particularly valuable for water and air quality. Using Bel Air as an example, the 100 trees per acre definition is unobtainable. In many cases the only canopy coverage that can be protected is in areas protected through the Roadside Tree Law. The commenters ask the state to redefine urban tree canopy so that local jurisdictions may have the opportunity to meet any established goals.

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Response: 100 trees per acre is the current standard being used for urban tree canopy goals but the State recognizes this may not be appropriate in all areas.

Comment # 331.

Commenters: C20, C23

The commenters note that the recommended approach to strengthen Maryland's Forest Conservation Act by requiring State and local programs is to require a "no net loss of forest" approach that would use forest mitigation banks and eliminate fee in lieu of payments to meet no annual loss of forest through development. Use forest mitigation banks to encourage the creation and retention of forests in areas providing the greatest benefit to local ecosystems and the Bay.

The commenters suggest that small urban areas such as the Town of Bel Air have little developable land available and most construction is associated with infill and redevelopment of improved sites. Available land for development is at a premium and land for afforestation does not exist. Consequently, the fee-in-lieu provision is typically used for meeting forest conservation requirements. Fee-in-lieu funds are used to increase and maintain the street tree inventory in the Town. Street trees are protected under the State's Roadside Tree Law and offer the only means to guarantee urban canopy coverage. Elimination of the fee-in-lieu provision will mean continued loss of canopy coverage within the Town limits and no means of replacing lost coverage. While mitigation banking at the county and state level offers effective means of meeting a "no net loss" forest cover mandate, small urban areas stand to lose significant canopy coverage without the option of a fee-in-lieu provision, which stands in contrast to Urban Tree Canopy goals. Local jurisdictions have always been encouraged to develop and enforce local forest conservation ordinances. The commenters request the state preserve the fee-in-lieu option at least at the municipal level so a local jurisdiction has a viable option to promote and protect urban canopy coverage.

Response: See response to comment 125.

Comment # 332.

Commenter: C36

The commenter states that key component in successful implementation of sediment control and nutrient reduction goals is establishing and enhancing forest stands. The commenter is concerned about the change to the Forest Conservation Act eliminating the fee in lieu option. Collection of these fees provides a greater opportunity for a net increase in forest acreage and the commenter has seen the fees expand forest stands and purchase property that is then returned to forest.

Response: See response to comment 125.

Comment # 333.

Commenter: C50

The commenter notes that wetlands, riparian buffers, and other filters offer great opportunities for Maryland to achieve significant nutrient reductions. The WIP calls for an additional 3,000 acres of streamside forest buffers, using the new Conservation Reserve Enhancement Program (CREP) program and increased outreach, and an additional 1,000 acres of wetland restoration. The commenter encourages Maryland to set more ambitious goals for wetland and buffers and to implement a highly targeted approach to deliver the greatest water quality benefit from these enrollments. The commenter notes that the discussion of Vegetated Open Channels, which offer opportunities for improved ditch management and resulting nutrient reductions and recommends the state form a working group on enhancing the ecological functions of ditches to include researchers from University of Maryland

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College Park (UMCP), University of Maryland Eastern Shore (UMES) and Agricultural Research Service (ARS) with representatives from MDA, MDE, Public Drainage Association, and non-government organizations (NGOs).

Response: During Phase II of the Watershed Implementation Planning process, beginning in January of 2011, there will be opportunities to identify additional and more ambitious goals for wetland and riparian buffers, and other natural filters.

Comment # 334.

Commenter: C52

The commenter states that the elimination of fee-in-lieu option for developers complying with the Forest Conservation Act would provide many benefits to landowners and counties administrators while promoting the expansion of green jobs. The strategy would also undercut existing and emerging county forest conservation programs. The commenter, the Sustainable Forestry Council, recommends a new strategy to better encourage the mitigation option while maintaining the flexibility of fee-in-lieu program. The commenter suggests that the Maryland Forest Service work with partners to market the availability of forest mitigation banking as a conservation funding opportunity for landowners and MDNR provide guidance to forest conservation programs on how seedlings can be used instead of larger caliper trees to achieve successful regeneration. There is potential to help landowners save establishment costs while ensuring similar project establishment goals. MDNR can make state nursery seedlings available to landowners and establish partnerships with existing nurseries to ease the costs of landowner bank establishment. The Forest Service can encourage forest conservation programs to work with partners to lower the administrative cost of bank establishment. Partners include Bay Bank, Forestry for the Bay, University of Maryland Cooperative Extension, and conservation districts. Forest conservation programs can require developers to purchase credits from mitigation banks if the cost of credits is below the fee-in-lieu rate/there are greater than three mitigation banks active in the county/other ideas. Fee-in-lieu programs can be required to favor private lands reforestation and conservation over county and state reforestation. Forest conservation programs can be required focus on pooling funding to provide turnkey reforestation projects on private lands.

Overall, the commenter states that mitigation banks can and should be a preferred option for reforestation, but they should not be the only option when it will result in the elimination of existing, successful programs. This will be important at a time when increased mitigation demands will result from a No Net Loss of forest requirement. Reducing flexibility for local governments who will be such an important part of meeting the ambitious Bay restoration goals is shortsighted.

Response: See response to comment 125.

Comment # 335.

Commenter: C52

The commenter states that the proposal to require a “no net loss” of forests will be very challenging for local governments, but this proposal generally has wide support and was recommended through two state Task Forces. The General Assembly passed SB 666 (Chapter 298, Act of 2009), putting in motion the process of defining No Net Loss, with implementation proposals due by December 2011. This law requires consultation with the Sustainable Forest Council. To aid the implementation of a no-net-loss of forest, the WIP calls for the elimination of the fee-in-lieu of payments option. By eliminating this option, it is hoped that all off-site forest mitigation will be achieved through private forest mitigation banks. Using only mitigation banking can offer a number of benefits: (1) Limits

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forest loss through development to only when opportunities to protect existing forest and/or plant new forest exists. (2) Increases private woodlands conservation and restoration. (3) Targets conservation to areas most important to watershed restoration and other environmental goals. (3) Encourages market forces to determine the price of forest mitigation. The current price is essentially based on county in-lieu-fee rates. (4) Eases county fee-in-lieu program administration costs. (5) Develops green jobs that manage and establish mitigation banks.

Response: See response to comment 125.

Comment # 336.

Commenter: C52

The commenter states that eliminating the fee-in-lieu option would essentially end some successful county forest conservation programs capitalized by FCA. For example, Baltimore County has developed a program to use fee-in-lieu funds to reforest private, county, and state lands; monitor tree planting projects; and manage a small tree nursery. The program eases restoration efforts by using the fee-in-lieu funds to pay for all equipment, reforestation materials, and labor. Frederick County is currently developing an innovative strategy to focus fee-in-lieu funding to priority green infrastructure parcels.

Response: See response to comment 125.

Comment # 337.

Commenter: C52

The commenter states that the FCA currently favors the use of mitigation banking over the use of fee-in-lieu option for off-site mitigation. After a developer proves that on-site forest conservation and reforestation are not possible, the company can then use mitigation banks to meet their regulatory needs. If no mitigation banks are available or existing options are too expensive or otherwise burdensome, a developer can only then pay into the county's fund. To what degree developers adequately pursue banking options is in question. For example, the commenter notes that Baltimore County has mitigation banks with available credits and an active fee-in-lieu fund. Many other counties also have active fee-in-lieu funds despite the availability of mitigation banking as the preferred option. The commenter points out that the lack of available mitigation banks is a limiting factor in the use of banking. The lack of mitigation banks is due to a number of factors. First, most private landowner outreach organizations (e.g. conservation districts, service foresters, watershed organizations, etc.) do not adequately present banking as a conservation option. County planning offices administer the Forest Conservation Act, but most do not have the resources to market the banking option to landowners.

Response: See response to comment 125.

Comment # 338.

Commenter: C52

The commenter states that there are substantial and upfront bank establishment costs that act as a barrier to entry for most private landowners. A county fee-in-lieu program like Baltimore County's alleviates this problem by pooling resources in the fund and then paying for all the costs. The commenter states these costs include: 1) Project development including forest conservation plan, easement costs, tree stock and labor, professional survey, and attorney fees (approximately \$5,000/acre), 2) financial guarantee/bond (on the basis of project development costs), and 3) county administration fee (approximately \$100).

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Response: See response to comment 125.

Comment # 339.

Commenter: C52

The commenter states that landowners may be hesitant to permanently restrict development rights on their land and plant new trees on agricultural and suburban lands. The willingness of landowner to establish banks may vary region to region.

Response: Any type of banking will require willing buyers and sellers. Mitigation will occur where the State will benefit from the greatest water quality improvement. Incentives may need to be provided to encourage banks on private lands.

Comment # 340.

Commenters: C55, C81

The commenters, Queen Anne's Soil Conservation District and Washington County Soil Conservation District, strongly oppose the recommendations made in section 5.2.3, Natural Filters, item B (Achieve "no net loss of forest" through changes in Maryland's Forest Conservation Act). The strategy suggests that eliminating fee in lieu payments and using mitigation banking in its place, will meet the criterion of no annual loss of forest through development. The commenters state this approach wrongly assumes a payment in lieu results in a net loss of forest, wrongly infers fee in lieu does not encourage the creation and retention of forests in areas providing the greatest benefit to local ecosystems and the Bay, and wrongly assumes mitigation banks do provide for the no net loss of forests in every case.

Response: See response to comment 125.

Comment # 341.

Commenter: C57

The commenter states that the proposal to change FCA to eliminate the fee option and to use a mitigation bank-only approach, discussed in pages 5-27 through 5-30 is of concern for the following reasons:

- The change will undermine efforts to increase urban tree canopy (UTC), which is important because urban trees are a cost-effective means to help reduce urban stormwater runoff. The proposal negates action by the General Assembly that just became effective in October 2009, which allows FCA fees to be used to implement UTC goals and to maintain the health of existing forests. Several local jurisdictions are already using FCA mitigation fees for their UTC programs. If the State's WIP is approved, these efforts would be terminated.
- Mitigation banks are essentially incompatible with urban areas, especially where Smart Growth development is promoted in jurisdictions such as Baltimore County. Given land requirements for reforestation and competition for development areas, mitigation banks will need to be in rural areas for all practical purposes. TMDL and Bay restoration implementation need to retain options to address pollution at the source, including urban areas.
- Precluding the use of FCA fees for UTC efforts will reduce flexibility for supporting the Growing Home Campaign. The commenters needs to retain the option to use some mitigation fees to help support the program, including the Coordinator position, if they are unable to secure increasingly-scarce and competitive grants. Given the success of the Growing Home Campaign and the return on County cost-share for coupons that comes from

the retail sector and homeowners, eliminating FCA fees for UTC programs negates the WIP intent to leverage private sector investment.

- Fees-in-lieu of mitigation provide a reasonable and necessary option for the development industry to comply with the FCA. Baltimore County and other jurisdictions currently rely on a multiple-option approach to forest conservation and mitigation that already utilizes private markets in addition to fees. Fees are approved only as a last resort when on-site forest retention, on-site reforestation, and off-site options are not possible.
- The commenter states that the private sector has limited capacity for establishing mitigation banks. Mitigation banks are not easy to establish and monitor, and costs will still need to be incurred for operation, monitoring, and maintenance. There are currently only six mitigation banks in the County (5 have a combined capacity of only 80 acres), and less than 25 percent capacity remains. Only one firm is still the business of reforestation and maintenance of these banks. And given that other developer reforestation projects have experienced difficulty regarding long-term success, allowing fees to go to local jurisdictions for coordinated, long-term reforestation and maintenance programs helps achieves mitigation goals. If mitigation banks were not available, development projects could not be approved, creating a hardship for major and minor development projects. Retaining the fee-in-lieu option also assures competitive, realistic pricing and prevents property owners from being held hostage by bank operators who may have a monopoly on mitigation bank sites.
- If FCA fees are eliminated, Baltimore County Department of Environmental Protection and Resource Management's existing Community Reforestation Program will be terminated once our fee balance is depleted. From 1993 to 2003, Department of Environmental Protection and Resource Management used contractors to satisfy reforestation requirements but found that the private sector was primarily interested in planting but not the continuing monitoring and maintenance that is necessary for long-term success. Private sector options exhausted, we developed an in-house program in 2003, which remains the only continuing fee-based effort in Maryland. To date we have reforested nearly 200 acres and have an experienced, dedicated reforestation crew, as well as professional equipment and a seedling nursery currently stocked with 13,000 trees—all supported by the fees. Baltimore County's project survival is very high and maintains reforestation projects beyond the minimum of 3 years. Through this in-house effort, the County is a continuing purchaser of private sector goods and services.

Overall, the commenter notes that mitigation banks can and should be an option for reforestation, but they should not be the only option when it will result in the elimination of existing, successful programs. This is important at a time when increased mitigation demands will result from a No Net Loss of forest requirement. Reducing flexibility for local governments who will be such an important part of meeting the ambitious Bay restoration goals is clearly short-sighted. The WIP proposal will essentially put the success of the entire No Net Loss goal through a banking-only approach that has not been proven regarding results or capacity.

Baltimore County's Forest Sustainability Program has achieved national recognition and we are positioned more favorably than most other jurisdictions to meet the future challenges for Bay restoration. Our programs are well known among the State agencies. Yet the WIP proposal will disproportionately impact Baltimore County if the proposal to eliminate FCA fees-in-lieu of mitigation is adopted.

Response: See response to comment 125.

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Comment # 342.

Commenter: 92

The commenter supports strengthening Maryland's Forest Conservation Act to require a "no net loss of forest" approach and encouraging the use of mitigation banks as an option to meet forest conservation obligations. The commenter does not support elimination of the fee-in-lieu of payment as an option to meet forest conservation obligations because the fee-in-lieu option provides needed flexibility for sites in urban areas. These fee-in-lieu funds are used to establish riparian buffers to maximize water quality benefits, and a residential tree planting program. In addition, the funds are now allowed to be used to meet urban tree canopy goals.

Response: See response to comment 125.

Comment # 343.

Commenter: C87

The commenter notes that a planned activity is to strengthen Maryland's Forest Conservation Act by requiring local programs to be amended to require a "no net loss of forest" approach. The No Net Loss of Forest law (SB 666/HB 1291) that passed in 2009 directs MDNR to work with stakeholder groups to determine the meaning of "no net loss of forest" and develop proposal to put a policy in place. The law also requires MDNR to work with stakeholder groups to report to the Senate Education, Health and Environmental Affairs Committee and the House Environmental Matters Committee on proposals to develop statutory, budgetary and regulatory policies to achieve "non net loss of forest" in the State. The commenter recommends that DNR and MDE jointly reconvene the stakeholders working group immediately to develop specific recommendations prior to setting a "no net loss of forest" approach.

Response: See response to comment 125.

Comment # 344.

Commenter: C86

The commenter states that a key strategy to reduce stormwater flow is the retention of forests, yet there is no action slated for the enforcement of the FCA to require no net loss of forests until after 2012. The commenter requests the State enforce the FCA immediately and not to wait until 2012. Retention of forests now is a much more cost efficient and effective strategy to prevent flow of stormwater into our waterways than planting buffers later.

Response: FCA policies statewide are complex and will require changes in local ordinances which will take time to implement and may have impacts on local land use policies.

Comment # 345.

Commenter: C53

The commenter states that the WIP proposed change to the FCA that would require *no-net-loss* is a good idea, but there is a problem with the proposed changes to the FCA that would limit forest mitigation to forest banking strategies and would eliminate fees-in-lieu. The commenter (Montgomery County) uses a hierarchy of different approaches ranging from onsite mitigation, to off-site options including forest banks, to fee-in-lieu, which is the least desirable. The flexibility that a range of prioritized options provides is much better than a one size fits all approach, and allows for more creative and beneficial solutions in problematic situations. Fee-in-lieu is at the bottom of the list, but it needs to be there with the others as an option.

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The commenter has used the fees to plant riparian buffers on public land in various parts of the county. In addition, since the recent law change, there is planning to implement an urban tree canopy planting program using FCA mitigation fees. The in-lieu fees are an opportunity to reverse the trend of forest loss in developing areas both with forest and with urban canopy. These efforts would be terminated if the WIP proposal is adopted as proposed. Mitigation banks are never established in urban areas and only rarely in suburban areas. On the contrary, mitigation banks have nearly always been set up within the county's Agricultural Reserve, increasing the trend of forest loss in growth areas. TMDL implementation needs to retain options to address pollution at the source, including suburban and urban areas. Local jurisdictions that are required to implement TMDLs need every tool available to get trees planted in our communities and to maintain them.

Response: See response to comment 125.

Comment # 346.

Commenter: C86

The commenter (Severn River Commission) states that a major source of nutrients and sediments from the Severn River watershed is stormwater runoff, which is increasing. The commenter notes that 3,000 acres of streamside forest buffers are slated for planting in the State by 2012 in agricultural areas and another 345 acres are slated for public land. The commenter requests that the Severn River watershed be given a high priority for planting on private land since it has little available agricultural and public land. The Severn River watershed is an ideal area to use wetland restoration to restore wetlands in areas that are reconfigured with living shorelines.

Response: Anne Arundel County is a pilot in developing Phase II of the Watershed Implementation Plan and they are developing specific targets in each of the watersheds including the Severn River.

Comment # 347.

Commenter: C82

The commenter (Frederick County) states it would be negatively affected by FCA enforcement recommendations, particularly the no net loss of forest requirements and the elimination of the fee in lieu program. The fee in lieu program is being used to target larger tracts of ecologically significant forest and areas with designated use impairments; this is not possible without the program. The county has also found that these fees often provide a greater opportunity for a net increase in forest acreage than the minimum requirement.

Response: See response to comment 125.

Comment # 348.

Commenter: C94

The commenter states elimination of fees-in-lieu will depend on forest mitigation banks being in place. The commenter asks if this can be assured, and if so, how.

Response: See response to comment 125.

Comment # 349.

Commenter: C91

The commenter agrees with no net loss of forest however, the commenter does not support elimination of the fee-in-lieu component. The commenter states that component provides substantial funding to not only reforest lands but to purchase intact forested lands and preserve them and would

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be detrimental to the overall program effectiveness. The commenter notes that fees collected in lieu of reforestation or forest preservation are used, and will continue to be used, to reforest lands and to target currently forested tracts for preservation. The commenter states that without this program, this effort would not be accomplished.

Response: See response to comment 125.

Comment # 350.

Commenter: C108

The commenter (Calvert County) supports the “no net loss of forest” approach, but does not support limiting approaches to achieving such a goal. The County has a successful fees in lieu program in the Critical Area and has achieved the 100 percent replacement of forests goal in the Critical Area. Though Calvert County allows and encourages mitigation banking, the commenter suggests that the State should not limit the approaches to achieving the no net loss of forest goal.

Response: See response to comment 125.

Comments on Specific Strategy Options—Air deposition to nontidal streams

Comment # 351.

Commenter: C59

The commenter asks how the proposal to implement California auto emission standards will be implemented without specific legislation.

Response: The authorization to require California emissions standards is in the Health Air Act.

Comment # 352.

Commenter: C88

The commenter states the WIP assumes Maryland will implement the California low emissions vehicle standards. The commenter asks if this requires the approval of the General Assembly.

Response: See response to comment 351.

Comment # 353.

Commenter: C32

The commenter states that the draft WIP has useful information regarding the nitrogen air deposition provided by major river basin and lists the relevant state air programs that can be used to reduce pollutant loadings. As with other sectors, however, the draft WIP fails to explicitly state how these programs will be bolstered in order to achieve adequate load reductions.

Response: The new federal transport rule that replaces CAIR and future implementation of Maryland’s Health Air Act will all apply.

Comment # 354.

Commenter: C88

The commenter states the overall WIP appears to be attempting to balance nutrient reduction goals on the backs of the urban and agriculture sectors. The commenter states that airborne deposition, which represents a significant source of nitrogen-based nutrient contributions for Western Maryland, is almost completely ignored.

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Response: Air deposition was not ignored.. Although it is not shown explicitly, EPA is addressing air deposition in a significant way. Since it is being addressed by national legislation and was not subdivided by State it is was not included in State WIPs.

Proposed Regulations

Comment # 355.

Commenter: C4

The commenter states that the development of a new environmental rule does not necessarily guarantee improved environmental conditions as much as it does guarantee additional costs to businesses to demonstrate compliance. He believes the preferred results of the TMDL can be achieved by enforcing the existing regulations already in place. For example, high levels of nutrients in water generally come from fertilizer runoff from farming operations and are required to establish, maintain, and comply with Nutrient Management Plans. The commenter feels that the enforcement of these regulations would achieve compliance rather than regulate every landowner in the watershed. When a new regulation is promulgated, it is typical for the regulatory authority to assume everyone is guilty until proven innocent and to ask everyone to test to prove compliance. When one considers the cost per test, the number of outfalls, and the number of times monthly testing, the costs add up to a large amount of money.

The commenter states that his company does not add to the nutrient loadings because they operate quarries for brick manufacture and do not use fertilizers on their property. The commenter does not want to add an additional chemical test, no matter the cost, to his requirements when his company is not a cause of the problem. He states that his company has spent millions of dollars on environmental compliance in Maryland to the point where this now threatens the company's capability to make a profit and stay in business.

At stakeholder meetings the commenter asked whether his company's permits will be required to have additional testing requirements and feels the persons developing the standards have no idea how MDE permitting and enforcement will address these requirements. He recommends that MDE standards, permitting, and enforcement personnel get together and have a discussion on this issue.

Response: Increased enforcement is a priority.

Comment # 356.

Commenter: C6

The commenter feels that public agencies will not give up potential development areas more readily than private landowners. He points out that Boards of Education, recreation agencies, universities, public hospitals, correctional facilities, veterans' cemeteries and the like are expanding in response to current and forecast future demands and will not forfeit on-site development potential when it is contrary to their primary mission.

Response: There are likely various permits that will be needed for that development to occur. Those permits will need to be consistent with the wasteload allocations.

Comment # 357.

Commenter: C10

The commenter notes that in recent rains [email dated 10/15/2010] turned Mill Cove in St. Mary's County into a "brown, mocha colored, opaque mess" while nearby creeks remained clear. He noted

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that large logging operations in Hollywood, MD behind Chaney Enterprises removed every tree and bush leaving only equipment scars, bare dirt roads, and stumps with no protection during storm events.

He learned that Soil Conservation employees approve logging operations allowing for the clear cut of even non-commercial species and saplings with no required replanting or erosion protection. He asks why they even have to get a permit and expresses concern that they couldn't perform in a more environmentally destructive manner.

The commenter states that logging of valuable mature trees could be accomplished with less destructive equipment while leaving most of the vegetation intact, improving downstream water quality and that the WIP should be updated to require better logging practices.

Response: Problems such as these should be reported to MDE compliance so that inspectors can go out and gather data for enforcement actions.

Comment # 358.

Commenter: C14

The commenter would like to see more details about the cap and trade system for nutrients that is being proposed as a strategy. There is not a lot of detail in the WIP about what the next steps are to make that program get up and running.

Response: See response to comments 89 and 233.

Comment # 359.

Commenter: C21

The commenter suggests that the State should tax the sale of fertilizer in Maryland on the basis of the amount of nitrogen and phosphorus in the fertilizer and use the tax proceeds for Bay restoration programs. This new tax would properly impact all users of fertilizer (from agricultural to homeowners) in proportion to the nutrients they are applying. It would create an incentive for users to minimize fertilizer use and perhaps eliminate it. The commenter is not sure how to handle out of state buyers and feels there would be objections from the agricultural sector.

Response: The referenced strategy has been discussed and is being considered.

Comment # 360.

Commenter: C21

The commenter suggests that the State should make it illegal for homeowner's associations to prohibit planting of trees or indigenous natural plants in the Critical Area zone, since at present some homeowner's associations require the specific lawn maintenance or otherwise regulate letting property go natural.

Response: The referenced suggestion can be considered during Phase II development of local plans.

Comment # 361.

Commenter: C26

The commenter suggests that the BRF obtained from septic users be allowed to be used for public sewer main extensions (including connection charges) to facilitate the conversion of existing septic systems to public sewer. The effectiveness of this strategy is founded on the greater nitrogen removal capability of the publically owned WWTP over that of the onsite systems that depend on operation

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and maintenance by individual property owners. The BRF should be allowed to cover the cost of the extension of the public system and connection fees. The WIP needs to address changes to the enabling legislation to allow BRF funds to be used in this manner.

Response: See response to comment 115.

Comment # 362.

Commenter: C26

The commenter notes that the Harford County Health Department enforces State and local regulations regarding the installation of commercial and residential septic systems in the county. The recent legislation for using BAT systems for nitrate reduction in the Critical Area has been a good first step in implementing pollution reduction emanating from septic systems. The County is in favor of instituting BAT systems county-wide, and promoted this in 2003 when local septic system regulations were passed. However, this idea was not part of that legislation. With the new emphasis on Bay restoration, the commenter recommends that legislation should require BAT for all new septic systems including those outside the Critical Area.

Response: The recommendation could be addressed locally.

Comment # 363.

Commenter: C26

The commenter notes that in Harford County, approximately 85 percent of properties are within 1,000 feet of a stream and suggests BAT requirements on all NEW septic systems within 1,000 feet of a stream.

Response: The referenced strategy was considered, but used as a contingency.

Comment # 364.

Commenter: C37

The commenter suggests Maryland should mandate that all practices and devices to reduce nitrogen, phosphorus, and sediment pollution and protect water quality, identified (by NRCS, MDA, SCD staff) in soil & water conservation plans be implemented within a certain number of years, similar to the response to the *Pfiesteria* outbreak in the late 1990s when nutrient management plans became mandatory.

Response: All practices may not be practical or necessary in all locations. That is why permits set performance standards rather than a uniform level of implementation.

Comment # 365.

Commenter: C37

The commenter suggested that a condition be added to preferential agricultural tax assessment application for farms to the implement water quality BMPs and establish a date which the water quality components in soil and water conservation plans or farm resource management plans must be implemented. Additionally, require farms without soil & water conservation plans that after the next tax assessment cycle a soil and water conservation plan be written with a implementation timeline. If, by the following assessment cycle, the soil & water conservation plan is not prepared or if the water quality components of the soil & water conservation plan are not installed, the property owner will lose the lower tax assessment.

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Response: The commentor's suggestion could be part of the funding strategy to be developed in Phase II.

Comment # 366.

Commenter: C37

The commenter suggests that state land preservation programs (e.g. Maryland Agricultural Land Preservation Foundation (MALPF), Rural Legacy) are modified to establish a water quality BMP set-aside, whereby a percentage of the funds paid to new enrollees in these preservation programs is sequestered and dedicated to implement BMPs and restoration activities.

Response: The MALPF and Rural Legacy programs require landowners to have and implement a Soil & Water Quality Plan. Additionally, inspections are conducted of the properties to verify implementation & maintenance of the BMP plans.

Comment # 367.

Commenter: C38

The commenter recognizes the need to expand the list sources covered by NPDES permits where discharges of nutrients and sediment are involved, including CAFOs (in addition to some AFOs will need moved to this category), MS4s and other sources of storm water runoff. He fully supports this because of the additional level of control provided through NPDES permits and points out that many NPDES permits issued by MDE contain inadequate monitoring requirements to ensure compliance with discharge limitations. The commenter encourages MDE to include more comprehensive and rigorous sampling and analytical requirements in all new and reissued permits and encourages MDE to conduct more frequent inspections of permitted facilities.

The commenter notes that Maryland has a good storm water management and erosion and sediment control law, however a more expansive and vigorous use of this law would be helpful in reducing nutrients and sediment in storm water runoff. He agrees with the discussion of this supports making these programs more extensive and robust.

Response: Noted.

Comment # 368.

Commenter: C100

The commenter states that the WIP should identify the legislative specifics that will allow the state to meet necessary nutrient reductions and provides several ideas.

- The General Assembly should enact a nutrient surcharge on turf fertilizer. In the urbanized counties, excess lawn fertilizer is a large contributor to polluted runoff and a surcharge could reduce excessive use.
- The State's requirements for agricultural fertilizer use should be strengthened. The General Assembly should amend State code to require the use of precision nutrient testing prior to fertilizer application, more detailed record keeping, and increased penalties for noncompliance.
- The WIP must include MOUs with MS4 permit holders to substantiate the State's claim that substantial nutrient reduction will be achieved through its MS4 permit program since the state fails to support this assertion that substantial nutrient reduction will be achieved through NPDES MS4 permits with evidence that its proposed MS4 restoration requirements are achievable.

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Historically, localities have underfunded stormwater restoration and to date MDE has failed to require compliance with MS4 funding requirements.

- The WIP should include MOUs from key state legislators (e.g., Speaker of the House and President of the Senate) to document State plans for legislative solutions.

Response: All of the strategies listed are consistent with the WIP strategies.

Comment # 369.

Commenter: C76

The commenter requests that specific requirements be added to discharges from all private community wastewater plants that will strictly limit their discharges of nitrogen and phosphorus, which is not currently required.

Response: Both public and private facilities are capped based on ENR strategy. WLA are part of the final WIP.

Comment # 370.

Commenters: C65, C70

The commenters suggest requiring upgrades of septic systems located in riparian areas throughout the state and prohibiting larger developments on septic systems.

Response: Upgrades of septic systems are very expensive and not very cost-effective. Upgrades will be implemented first where they will have the greatest effect.

Comment # 371.

Commenters: C67, C68

The commenters suggest doubling the monthly *flushing fee* to upgrade sewer treatment plants, prohibiting septic systems in large subdivisions, and requiring local governments to develop and implement local stormwater fees.

Response: The commentator's suggestion will likely be consistent with the recommendations of the BRF advisory committee.

Comment # 372.

Commenter: C60

The commenter suggests the WIP should require enforceable limits on all permitted sources of pollution, and it should provide a timeline and details on how the state will fund, implement, and enforce every proposal.

Response: There are limits on all permitted sources. Additional details and timelines were added in the final submission.

Comment # 373.

Commenter: C106

The commenter requests that the state should eliminate phosphorus from residential fertilizer. Recent legislation to limit the phosphorus concentration in fertilizer to five percent was a step in the right direction, but the state needs to go one step further to get the phosphorus content to a negligible level.

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Response: Low phosphorus fertilizer is currently available. The current actual level is already significantly below the 5% limit.

Comment # 374.

Commenter: C97

The commenter suggests that measures to reduce or eliminate fertilizer usage on residential lawns, golf courses, and public lands should be included in the WIP, including measures to prohibit phosphorus in fertilizers sold for maintenance of such properties.

Response: The suggestion is included in the final submission and was extensively discussed by the Bay Cabinet.

Comment # 375.

Commenter: C109

The commenter states that homeowners should be required to reduce their nutrient and sediment footprint and that urban fertilizer use is increasing while agricultural fertilizer use is decreasing. The commenter requests that the state institute a change in fertilizer usage not establish a fee to continue with current practices, since a tax only increases the cost to use, not reduce usage.

Response: The suggestion is included in the final submission and was extensively discussed by the Bay Cabinet.

Comment # 376.

Commenter: C81

The commenter states that the current policy calls for a reassessment of the University of Maryland Guidelines for lawn application of nitrogen which calls for up to 4 lbs of N per 1,000 square feet of lawn, or 172 lbs per acre and notes that the minimum recommendation is 2 lbs/1000 square feet or 86 lbs/acre.

Response: Noted.

Comment # 377.

Commenters: C65, C70

The commenters suggest outlining stronger standards for Smart Growth as a means to improve water quality. Re-evaluating Priority Funding Areas that are poorly located for protection of water quality would also strengthen the WIP. As an example, the commenters provide Bryans Road drains to especially sensitive spawning waters of Mattawoman Creek, yet it was designated a Priority Funding Area with no public input.

Response: See response to comment 89.

Comment # 378.

Commenters: C65, C70

The commenters suggest using strong actions to limit sprawl development. In particular, require local jurisdictions to make the connection between land use and transportation, with a reevaluation of the location of their future growth in their Phase II WIPs. The commenters note that Charles County has designated a development district larger than Washington D.C., most of which is in the Mattawoman watershed. This is adverse to achieving TMDL goals, as is the growth that would follow the proposed Cross County Connector and Waldorf bypass. Smart Growth alternatives exist and the

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commenters note upgrading present highways and re-vitalizing Waldorf as an example of how Smart Growth can work.

Response: See response to comment 89.

Comment # 379.

Commenter: C44

The commenter supports the State's aggressive targets for retrofits of impervious surface within MS4 jurisdictions. However, the commenter notes that with the current funding and regulatory scheme these retrofits are unlikely to occur. The commenter notes that Montgomery County, a county with components of a dedicated revenue stream for stormwater retrofits, was unable to reach a 10 percent retrofit benchmark during its last stormwater permit cycle and that other counties have little or no stormwater retrofit funding. The commenter and other stakeholders have lobbied for the passage of a state requirement that local jurisdictions create a dedicated, reliable funding stream to begin funding these stormwater retrofits on a state-wide scale (SB 686/HB 999). The commenter requests that such a bill would be a priority for the state legislature in 2011.

Response: Maryland agrees that with the current funding, the retrofits cannot succeed. Additional funds will be required and part of Phase II is developing a funding plan. Such a bill would need to be privately sponsored in 2011, but could be submitted by 2012 if needed.

Comment # 380.

Commenter: C44

The commenter requests funds from the Bay Restoration Fund are expanded to include a partial subsidy of septic-to-sewer conversion in appropriate areas. The commenter states this will be a more cost effective expenditure of State dollars to reduce nutrients as well as an effective way to leverage private dollars with State funds. The commenter suggests that a bill, such as HB 313 that would allow MDE the option of providing the aforementioned such grants, be an Administration priority in 2011.

Response: See response to comment 115.

Comment # 381.

Commenter: C74

The commenter suggests that inspection and enforcement of runoff from farms and CAFO regulations should be conducted by MDE rather than MDA. MDE must also monitor local government programs more closely to ensure strict enforcement of permits, approval of low-cost innovative BMPs that affect nutrient and sediment loads.

Response: CAFOs are monitored and inspected by MDE. Local government progress will be tracked through an accounting and tracking system and milestones developed during Phase II. In addition, water quality changes will be measured.

Comment # 382.

Commenter: C74

The commenter suggests that MDE should require all new and replacement septic systems in coastal zone/coastal plain (depending on their soils) to include low nutrient load technology.

Response: BAT for new and replacement systems is a contingency in the final submission.

Comment # 383.

Commenter: C100

The commenter states that Maryland's overall administration of its CWA permitting program has been a disappointment and spurred the Waterkeepers' December 2009 petition to withdraw approval of the State's NPDES program. Compliance by permittees covered by the State's General NPDES permits is especially problematic with no requirement for water quality monitoring by permittees to document compliance. The commenter requests the WIP propose this measure and other controls for entities covered by general permits. Maryland must also ensure that every facility discharging industrial stormwater applies for coverage under the general permit. These facilities must be inspected annually, and must implement all controls necessary to prevent exceedances of water quality standards. It is critical that the WIP specify the State's plan for achieving permit compliance. The recent fines that EPA levied on Anne Arundel, Harford, and Baltimore counties for non-compliance with their NPDES MS4 permits are powerful motivators, and there is no reason that MDE could perform these enforcement actions. In fact, until such disincentives are better used, strict compliance with NPDES permits seems unlikely. Maryland's final WIP should explain how it intends to improve its enforcement program and address these issues as they relate to the Bay.

Response: The WIP is not about permit compliance but is a much broader plan; MDE has significant increased enforcement actions despite reductions in resources.

Comment # 384.

Commenters: C89, C93

The commenters suggest that the regulation of land disposal/application of animal waste/manure should match regulations for the land disposal of human sludge from advanced WWTPs. These requirements should include the provisions already extant for human sludge that require the incorporation of all animal waste/manure into soils within 24 hours of application on land, soil tests to assure the land is not phosphorus saturated, and that prohibit application on steep slopes, highly erodible soils, frozen ground, and in riparian buffers of up to 200 feet.

The commenters further suggest that cover crops should be mandatory on any agricultural lands that receive human sludge and/or animal waste/manure, cover crops should be mandatory for a minimum of one year after application. Even with the use of cover crops, sludge and animal waste/manure should be required to be injected or incorporated into soils within 24 hours of application. Further, the practice of human sludge or animal waste/manure application to fields with excessive phosphorus levels should be stopped.

Response: Both do require nutrient management plans that address these issues. Mandatory cover crops is a contingency.

Comment # 385.

Commenter: C54

The commenter states that the recent legislation for using BAT for septic systems to reduce nitrate pollution in the Critical Bay Area has been a good first step in implementing pollution reduction emanating from septic systems. The Health Department recommends that State and/or local legislation require BAT for all new septic systems.

Response: Movement in that direction will likely occur when the accounting for growth strategy is complete.

Comment # 386.**Commenter: C56**

The commenter proposes eight recommendations for a renewed or expanded water quality trading regime:

- *Encourage public involvement through a publicly owned exchange.* The development and execution of a trading program must be done through an open and transparent process. Given the heavy subsidies likely required to establish an active trading programs, the market should be based in a publicly owned exchange that facilitates public involvement and transparency. Open meetings and public disclosure of all trades, including the buyer, seller and amount, are needed to enhance accountability.
- *Establish standardized regulations.* Because the watershed crosses state lines, the program needs a consistent set of trading rules to avoid conflict. Standardized protocols, forms and models can reduce overhead costs, enhance transparency and facilitate transactions.
- *Set strong baselines.* Producers must meet a high baseline before a new BMP can generate a credit. This will encourage producers to attain a higher degree of load reduction. Point sources must meet most of their water quality effluent limits before being able to purchase credits to offset the additional reduction requirement.
- *Regulate credit valuation.* The value of a quality credit should be determined by a standardized calculation to protect ratepayers of municipal wastewater treatment plants.
- *Establish protocols to determine equivalency.* Credits must be for equivalent, in time and space, reductions in pollution. Strong rules are needed to prevent hot spots. The banking of water quality credits should not be authorized. If a producer implements a best management practice and produces a credit one year, the credit should not roll over to the next year. A producer should not be able to preregister a credit for a practice implemented when a trade credit was unavailable. There must be independent studies and peer reviews of unapproved, nonstandard practices before they can be used to generate a credit.
- *Enhance monitoring.* A lack of water quality monitoring makes it difficult to establish a baseline condition and measure potential results of best management practices. There must be monitoring before and after trading to measure the effect of specific practices. These data can inform the model that determines the credit equivalency of practices.
- *Set a high trading ratio.* At minimum, a point source should purchase a credit equivalent to two pounds of pollution reduction for every pound of pollution reduction needed. A trading ratio of 2:1 or higher can produce a net environmental benefit and account for the margin of safety needed because of the difficulty involved in establishing equivalency in pollution reduction among different sources. The ratio must account for sensitive areas and incorporate point of impact and localized conditions.
- *Prohibit stacking of multiple markets.* To maximize environmental benefit, a producer should receive only one environmental credit for each new qualifying best management practice. This is in line with the wetland banking program, which owns all the functions and values of a wetland. In addition, a producer should not earn a credit for a practice that it was required to implement, such as part of a subsidized loan program through a government agency. The design of a new *ecosystem credit* should take this into consideration.

Response: See response to comments 89 and 233.

Comment # 387.

Commenter: C78

The commenter notes that natural filtration systems—streamside buffers, forests, and wetlands—are the most cost-effective methods for reducing the amount of pollution getting into our streams and waterways. The commenter is pleased that the state plans to spend funds to revitalize buffers and wetlands, they believe that more needs to be done to strengthen protections for existing habitats that are providing those ecological services at no cost to taxpayers. The final WIP should include more proactive initiatives to protect existing filtration areas; possible strategies could include strictly enforced statewide performance standards for protecting all stream buffers from development impacts.

Response: See response to comment 333.

Comment # 388.

Commenter: C78

The commenter notes that existing land use policies fail to account for the pollution loads associated with different types of development, which exacerbates the adverse impacts of population growth. To address this shortcoming, the plan recommends statewide policies that would assign per-capita pollution loading factors to different types of development and require those with the highest environmental cost to be offset by certain mitigation measures.

The commenter supports adoption of land-use policies that incorporate per-capita loading factors. To be effective, however, these guidelines must be incorporated into state and local land-use laws. The commenter urges the state to promptly enact the legislative changes needed to apply this approach statewide and to craft conforming ordinances for local governments.

Response: See response to comment 89.

Comment # 389.

Commenter: C106

The commenter states that enforcement of our water pollution laws should be improved by increasing maximum fine levels, doing more audits, and providing more information to the public about the inspections and audits that are done. The commenters suggest that higher fines are needed as a deterrent, since the standard fine for violating Nutrient Management Plans is \$300, it is cheaper for a farmer to avoid performing measures in the WIP and pay a fine than to follow the law. The state also needs more inspections to assure compliance and should make more information from those inspections public. Researchers and policy advocates need to make sure they are focused on the most important problems. Lack of adequate information creates a risk that advocates will assume the worst and not be coordinated in their efforts to build support for the best solutions. More information helps ensure that everyone is working together effectively.

The commenter states that the only way to enforce how agribusinesses and farmers handle animal manure is to establish cradle-to-grave tracking of that manure. With industrial chicken, there is a 1 billion pound pollution problem. It is hard to imagine how any restriction on manure application could be enforced unless agribusiness operators are required to show what happened to every ton of manure that comes into their possession. For instance, if a chicken operation produces 10 tons of manure, the operation should account for the whereabouts and usages of all 10 tons. If the operator indicates that 5 tons went to a particular farmer, then that farmer has to disclose what was done with the 5 tons.

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Response: Generally there is compliance with nutrient management plans (NMPs), and it is rare that additional enforcement action needs to be taken. Cradle to grave tracking is, at this time, a more stringent approach than seems necessary.

Comment # 390.

Commenter: C106

The commenter suggests a reduction in unneeded fertilization on home lawns. Having efforts to address nutrient over-application in urban and suburban settings that is comparable to efforts on agricultural lands is important for equity reasons and for water quality reasons. The commenter states that home lawn fertilization constitutes a cost-effective nutrient reduction solution. First, home lawn fertilization is not needed to promote healthy turf growth in most lawns. The existing soils are generally capable of supplying enough nutrients, particularly phosphorus. Second, studies in Minnesota and Michigan communities have shown sharp decreases in phosphorus concentrations in rivers and lakes within a year of passing a fertilizer phosphate ban. Third, very little has been done to date to educate homeowners and lawn care companies in Maryland on home lawn fertilization.

The commenter only knows of only one employee at MDA devoted to urban nutrient management plans. Maryland law currently requires lawn care companies to test soil before applying fertilizer, but MDA studies have consistently found that many companies are not complying with this requirement. According to MDA's *Nutrient Management Annual Reports*, only one \$250 fine has been assessed for violating this law since inspections began in 2002. The state should issue fines for violations that are large enough to ensure compliance from professional lawn care services.

Response: The final submission added low phosphorus and slow release nitrogen fertilizers as strategies.

Comment # 391.

Commenter: C109

The commenter states that facilities that cause nutrient loadings should be required to purchase twice the number of nutrients through the nutrient trading program to ensure an offset for their failure to control pollution.

Response: See response to comment 89.

Comment # 392.

Commenter: C110

The commenter supports the use of nutrient management plans as a necessary component of environmentally sound land application practices. The commenter states that all sources of nutrients, including commercial fertilizer, should be land applied according to a nutrient management plan. The commenter encourages Maryland to implement nutrient management plan requirements for all nutrient sources, not just for animal manure.

Response: Most major sources, such as sludge and professional applications are required to have plans or apply fertilizer according to a specified rate.

Comment # 393.

Commenter: C106

The commenter notes that as development continues to encroach into open spaces, nutrient pollution from stormwater increases. It will take enormous effort to ensure that polluted runoff decreases at the same time that the construction industry rebounds.

One of the most important tools is MS4 permits. The state should require that all MS4 and other stormwater permits incorporate the WLAs from the TMDL. Also, as MS4 permits are required of more jurisdictions and the requirements of the permits become stricter, Maryland should ensure there are significant consequences for failing to comply. The Stormwater Management Act of 2007 is a strong law that is meant to minimize polluted runoff from development. The state must push local governments to assure that they apply the law rigorously. One state tool to push local governments to do their parts is to tie state aid from programs such as the Chesapeake and Atlantic Coastal Bays Trust Fund and the Water Quality Revolving Loan Fund to demonstrated enforcement of stormwater management laws and the generation of local funding for effective WIP implementation.

Response: The permits that are now being developed will do so through a requirement that all TMDLs are implemented. Since the major obstacle to meeting wasteload allocations is lack of funding, it is not clear how withholding funding will help.

Comment # 394.

Commenter: C97

The commenter states that offsetting the effects of population growth and development by 100 percent is essential to maintaining any progress made by other sectors. The WIP should include measures to expand MS4 jurisdiction over more developed lands, better septic system requirements, and improved growth control measures as these are essential and the WIP should require completely offsetting growth related loads elsewhere in each watershed in the state.

The commenter suggests that a requirement is critically needed for no net increases in stormwater discharge rate, volume, and pollutants for all new development for a 5-year storm. Current state stormwater laws clearly do not accomplish this and the WIP should require and enforce a no net increase in rate, volume, and pollutant loads from all new development. This will require mandatory on-site containment through environmental site design.

The commenter suggests that the WIP should include improved water quality retrofit requirements for MS4 permits and for all developed lands including road construction or reconstruction, and all such MS4 permits should be required to meet the no net increase in rate, volume, and pollutants rule. For re-development, to the maximum extent practicable, no net increase in rate, volume, or pollutants should be required for a 5-year storm and offsets required where this no net increase requirement cannot be met. The WIP must include funding mechanisms to provide reasonable assurances that such urban retrofit will be accomplished.

Response: Final Phase I WIP provides additional information on stormwater management (SWM) requirements. The WIP requires offset of all new load and commits to development of the offset policy over the next three years.

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Comment # 395.

Commenter: C97

The commenter requests that the WIP contain provisions for better control of air emissions by regulating and enforcing emission controls from all sources in your state. All new stationary sources of air emissions in the state that contribute increased nitrogen to the Bay should be offset and the WIP must include provisions for accomplishing this offset.

Response: This will largely come about through the Health Air Act and the new federal Transport Rule, as well as State Implementation Plans (SIP).

Comment # 396.

Commenter: C97

The commenter suggest that the WIP should allocate WWTP pollution loads on the basis of 2010 wastewater flows, assuming a concentration of 3.0 mg/L of nitrogen and 0.3 mg/L of phosphorus and that any increased nitrogen or phosphorus loads with flows beyond 2010 actual flow levels must be offset with equal or greater reductions from other sources.

Response: The WIP accounting for growth strategy includes an analysis that demonstrates that the per household nutrient loading within non-sewered areas is almost 5 times greater than in sewered areas. Capping WWTPs to 2010 flows would remove a very important resource for maximizing the amount of future growth served by sewer systems.

Comment # 397.

Commenter: C97

The commenter request that the WIP adopt measures to assure that existing CWA and other water quality laws are fully enforced, including at all WWTPs.

Response: That is what the WIP is about.

Comment # 398.

Commenter: C91

The commenter suggests that MDE and EPA work together to streamline the state/federal permitting process to provide more expeditious review and approval of permit applications. The commenter believes without a more streamlined method of permitting, many of the proposed gap closing strategies will not be implemented in a timely manner and, thus, goals will not be achieved by the deadlines proposed. The commenter states this comment is applicable to both the Phase I WIP and the Phase II WIPs to be developed at the local jurisdiction level.

Response: Some permits are complex and take time. Other permits where there are delays may involve multiple agencies.

Ideas for Alternative Practices

Comment # 399.

Commenter: C5

The commenter did not see anywhere in the WIP that addresses the use of residential lawn fertilizer. He states that the executive summary depicts approximately 7 lbs of nitrogen/household from septic systems being delivered to the watershed and he compares that to a homeowner who over applies a

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forty pound bag of fertilizer on their yard twice a year. He feels this is an oversight in the WIP and that there needs to be some consideration in addressing this lawn to storm-drain connection of residential fertilizers.

Response: The requested information is partially addressed on page 5-25 and 5-26 of the WIP.

Comment # 400.

Commenter: C8

The commenter thinks that banning or limiting fertilizer usage on lawns would be more effective than using BAT systems for on-site wastewater systems. He points out that runoff from homes with large lawns along the bay, possibly with applied fertilizers and pesticides, runoff into the Bay possibly contributing hundreds of pounds of nitrogen per lawn per year. He points out that there is not a mandate to require property owners to reduce this fertilizer use and there is a mandate to require upgrades to septic systems. The commenter states that lawn fertilizer accounts for more nitrogen per year than septic systems, but there is no money [to be generated] in reducing fertilizers for lawns as for taxes and installations of less effective BAT systems.

Response: Both BAT and fertilizer reductions will be necessary.

Comment # 401.

Commenters: C13, C17, C19

The commenters express concern that very little is asked in the WIP of urban dwellers who maintain their own yards and gardens. They state that according to EPA's Chuck Fox, there is more land in turf grass throughout the Chesapeake Bay watershed than land in farming, yet homeowners have absolutely nothing asked or required of them except perhaps to pay higher taxes and fees and that according to one attendee at the Easton WIP meeting on September 30, 2010, the use of fertilizers on urban lawns has been growing 15 percent annually in recent years. He commented that non-farm purchases of fertilizer in Maryland are exceeding farm purchases. The commenters express concerns that these applicators can offset the tremendous strides made by farmers in reducing nutrient loadings. Homeowners can apply as many nutrients whenever they wish. There needs to be greater education or certification of homeowners who apply nutrients to their property.

Response: The final submission included more on the referenced issue.

Comment # 402.

Commenters: C17, C19

The commenters ask that rather than requiring any of these setbacks and vegetative channels, one of the first requirements should be an education program on managing vegetation near drainage ditches. They state that observations on the Lower Shore have found some farmers are increasingly applying herbicide in the spring to kill vegetation not just in the fields, but also in the ditches themselves. Defoliation in the ditches lasts for most of the summer and then any remaining vegetation often is mowed in the fall and early winter. Furthermore, the crops are planted (and fertilized?) within inches of the slope of the ditches. It would appear better ditch management and planting recommendations adjacent to ditches would be a better start than the more restrictive setbacks proposed.

Response: MDA Public Drainage Program has historically provided technical assistance to farmers. Budget reductions in the last 2 fiscal years resulting in staff reduction and currently 1 coordinator is available for 821 miles of drainage systems. The WIP calls for the reestablishment of the funding and

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staffing needed to perform annual walking assessments and enforce the state mandated set back established for drainage ditches.

Comment # 403.

Commenters: C17, C19

The commenters note that thanks to the chicken industry's leadership, more than 300,000 trees have been planted on Delmarva Peninsula chicken farms in recent years and efforts continue to increase the number of participating farms. Efforts are underway to expand the types of plants that can be used, including grasses to plant between chicken houses to eliminate the movement of nutrients through ventilation fans. The commenters state that with continued cost-share programs and private sector money available through Delmarva Poultry Industry, Inc., they believe the 75 acres of Vegetative Environmental Buffers is achievable. However, there needs to be research to document the water improvements from buffers. Data exist on air quality benefits, but data are lacking on water quality matters. They urge the state to provide research dollars to help with this investigation. The positive impact of buffers needs to be included in the Chesapeake Bay model.

Response: Most such research is conducted through academia.

Comment # 404.

Commenters: C17, C19

The commenters state that oysters are proven filters and cleaners of water and despite the steps being taken by the state of Maryland to increase the oyster population, there needs to be a significant increase in the re-establishment of oysters into the Chesapeake Bay and its tributaries. Oysters can help deal with existing nutrients and nutrients that will be added in the decades ahead. There needs to be a reexamination of oyster and clam harvesting techniques to prevent destruction of submerged aquatic vegetation and to reduce the amount of sediment created during harvesting.

Response: The State recognizes that filter feeders are important to Bay fisheries ecosystem and is looking at species such as oysters, menhaden, etc. Currently, the Chesapeake Bay Program Model has no mechanisms to calculate their benefits and the State is looking at methodologies to incorporate the benefits of filter feeders.

Comment # 405.

Commenter: C21

The commenter states that many homeowners wish to retain their unobstructed water view, and consequently all existing lawns are retained as such and are obviously not ideal for the buffer zone. The commenter suggests that the State, through entities such as MDA or the University of Maryland, develop and promote some ideal lawn substitute that meets these criteria: 1) very low growing (2' is too high); 2) must succeed on sunny dry land; 3) needs no fertilizer or artificial inputs; and 4) serves as good environmental buffer, but won't be overtaken by other shrubs and trees. The commenter states that homeowner's with existing water views do not like pressure to plant trees or plants that destroy that would destroy their view, but could be receptive to a good alternative that is presented and promoted. The commenter notes that such a plant might already exist, but it needs to be advertised as "the lawn alternative".

Response: The referenced idea can be further developed during Phase II. There is too much uncertainty to be included as an actual strategy in Phase I.

Comment # 406.

Commenter: C22

The commenter notes that there are a few mentions of alternative energy in the WIP and was not sure if a few technologies/research groups had been considered.

For example, the digesters that University of Maryland faculty and students are doing research on as well as research on algal turf scrubbers and tree farms that can be harvested for energy use. These require waste from waste water treatment plants that would help to differ and uses excess waste while giving it a chance to complete alternative needs for the community. The emissions from micro algae fuels are also less than emissions from other biodiesels and regular gasoline and diesels. The commenter asks if the college has been contacted or projects looked at.

The commenter asks if hydrogen technologies have been looked into as a priority. Hydrogen actually cleans the air and there is technology to use it without needing a holding tank.

The commenter asks if there has been any testing on the desiccants added to waste to find out their influence on the waters. Is this a consideration for funding?

Response: A section on waste to energy in conjunction with the P index was included in the final submission. Pilot projects are already running for algal scrubbers, but the technology was not quantified sufficiently to be in the model.

Comment # 407.

Commenter: C22

The commenter had several questions/suggestions regarding different public outreach as a mean for reducing pollution.

- Has there been any funding for PSA competitions, TV ad campaigns or other ways to advertise? If so does this include prescriptions or other chemicals that contaminate the waterways? Is there going to be a campaign for the reduction of flushing of prescriptions? Through drug stores, watershed teams or other means?
- Are there marketing considerations asking for more support from tree farms, orchards or native nurseries in critical areas?
- Has there been any talk or consideration of emphasizing grey water systems or low flow toilets/shower heads as a means to reduce storm water runoff?
- Has there been consideration for finding well functioning watershed teams and showcasing them/providing funds for them to expand their operations?
- Has there been consideration for business/marketing training for the watershed teams? There is a lot of help/support needed to and from the watershed teams and DNR/MDE and a little bit of training could go a long way.
- Can there be environmental science fairs in the schools to complete for best ecological/environmental solution to the watershed's plans?

Response: The ideas presented are good and will be used to some extent, but it is nearly impossible to quantify the effectiveness of these approaches.

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Comment # 408.

Commenter: C26

The commenter suggests that the WIP should consider wetland treatment of discharge from minor/small treatment plants such as those discharges that service schools and small communities.

Response: Wetland treatment has some very positive aspects, but maintenance costs are high and they are difficult to manage.

Comment # 409.

Commenter: C26

The commenter suggests that a specific strategy that favors biosolids utilization in lieu of inorganic fertilizers be established for appropriate agricultural crops. The basis for the strategy is 1) nutrients in biosolids are not as soluble as those in chemical fertilizers and therefore are released more slowly; 2) biosolids applicators are required to maintain setbacks from water resources and are often subject to more stringent soil conservation and soil erosion control practices, nutrient management, and record keeping and reporting requirements than farmers who use only chemical fertilizers or manures; 3) biosolids are closely monitored; and 4) organic matter in biosolids improves soil properties for optimum plant growth.

Response: Both are allowed and managed. Transport costs and availability constrain the replacement of inorganic fertilizers.

Comment # 410.

Commenter: C43

The commenter suggests adding the following text to the end of Section 3.3.2: “As an example, a local government alternative related to offsets from development could be a fee-in-lieu policy and regulations where mitigation funds are matched to specific stormwater retrofit and water quality improvement projects based on nutrient loads on an equivalent impact cost basis. This could function similar to other environmental mitigation banking systems.”

Response: See response to comment 89.

Comment # 411.

Commenter: C39, C58

The commenters state that Maryland has phosphorus imbalances on the region’s farms from too much manure and that the Phase I Draft WIP includes a commitment to revisiting the P-index. The commenters suggest that the final WIP include a December 31, 2011 deadline for adoption of better and more accurate tests and the WIP should state that the new phosphorus application test will be based on the latest science to minimize off-site phosphorus runoff. The new test should be phased in to apply first to areas where phosphorus saturation of soils is highest, then gradually expanded to the whole state.

Response: The issue will likely be addressed during 2011, but is dependent on some level of consensus on the science. Technical conferences are scheduled that may resolve this during 2011.

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Comment # 412.

Commenter: C33

The commenter suggests that it is vital for educational outreach for the public and elected officials on what needs to be done and why and this activity should be incorporated to the WIP even though it is hard to measure results.

Response: An extensive outreach program is planned. Success will be measured by participation and deliverables in terms of plans.

Comment # 413.

Commenter: C50

The commenter suggests Maryland can achieve greater water quality benefits, then currently achieving, through a targeted and strategic approach, which would be in line with pursuing a targeted watershed approach. To be effective when it comes to wetlands, buffers, and other filtering strategies, however, the targeting must be highly specific thereby ensuring practices are placed in the most effective places by evaluating and mapping factors that control the hydrologic flowpaths that deliver nutrients to the filters (e.g. topography, lithology, soils, and land use), and using this scientific information to determine where to focus wetlands and buffers within these watersheds to maximize benefits to water quality. The commenter states it is critical to use strategies that take out of production only those lands that can deliver the greatest nutrient reductions. The commenter notes studies from the Midwest and Sweden estimate that targeted implementation of well-designed wetlands can achieve 50 percent reductions in nitrogen with less than 5 percent of the agricultural lands taken out of production. In addition to water quality benefits, creation of targeted wetlands and filters would provide benefits for drinking water, flood reduction, wildlife habitat, and more. The commenter states that absent such an approach, Maryland will continue to miss critical opportunities to make much more effective and efficient use of wetland and buffer resources and generate far greater benefits.

The commenter states three actions that Maryland can do to ensure that filter practices provide significant reductions.

- Collaborate with public and private partners to identify the best locations for buffer and wetland placement at both regional and local scales.
- With a targeting strategy in hand, the state and its partners then can adapt cost-share and market – driven programs to provide the right incentives for landowners to adopt these practices. Maryland’s nutrient trading program provides a particularly useful vehicle for this.
- Collaborate with public and private partners to improve outreach and education to farmers and other landowners about the financial and other benefits of adopting filter practices.

Response: Phase II of the Watershed Implementation Plan will provide the State and locals a greater opportunity to target practices in the most effective places to realize the greatest water quality benefit.

Comment # 414.

Commenter: C38

The commenter notes that alternative uses of manure can involve waste to energy programs, some of which are already being piloted, as well as conversion to fertilizer which can be shipped to where it will not cause adverse effects to the Chesapeake Bay watershed.

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Response: This was added in the final submission.

Comment # 415.

Commenter: C87

The commenter suggests land conversion as a possible method for load reduction. As conversion occurs from one land use to another, an assessment of the potential load reduction benefit should be conducted and monitoring on an annual basis. Additionally as acreage moves between sectors, the base line for each sector and the applicable reduction requirements should be recalibrated.

Response: The State and a large number of local governments have established public goals to protect agricultural land. The WIP accounting for growth strategy is structured to discourage sprawl development that could lead to the loss of agricultural land.

Comment # 416.

Commenter: C87

The commenter states that MDE needs to detail a consumer fertilizer program that allows fertilizer application in certain months, caps the number of applications per year, limits the application of phosphorus, promotes the use of slow release nitrogen, and enhances consumer education by the builders and realtors and landscape professionals.

Response: This was enhanced in the final submission.

Comment # 417.

Commenter: C48

The commenter suggests that the WIP should include a strategy to promote and sustain biosolids land application, which is certainly environmentally beneficial as compared to the alternative of inorganic chemical fertilizer use for the following reasons:

- Biosolids-based nutrients are released more slowly because they are not as soluble as nutrients found in chemical fertilizers.
- Biosolids land application includes many safeguards including mandatory setbacks from water resources, soil conservation and soil erosion control practices, nutrient management requirements, and record keeping and reporting requirements. These safeguards exceed those required for chemical fertilizer or manure applications.
- Biosolids land application is carefully regulated at the federal and state level and subject to enforcement in the event of noncompliance.

Response: Those programs are active and self-sustaining.

Comment # 418.

Commenter: C92

The commenter recommends adding a strategy for WWTP biosolids management including using WWTP biosolids locally as a more environmental responsible practice, while increasing carbon sequestration.

Response: Disposal potential may not be available locally, so broader strategies such as pelletization and transport need to be used.

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Comment # 419.

Commenters: C89, C93

The commenters suggest that the WIP should do more to address small WWTPs that have a profound effect on certain rivers. Commenter C89 gives the example of Galena WWTP, which is the source of half of the nutrients in the Sassafas River and has a direct discharge to the Bay, yet receives no grants. The commenter suggests that small amount of money could go far in improving certain critical ecosystems, however they are not mentioned in the WIP. There are four WWTPs, which have been operating since the 1960s, discharging to the Patuxent River and do not meet BNR standards, do not monitor for phosphorous or nitrogen, have no limits for these constituents, and have no upgrade plans or requirements even after some forty years of operation. The commenter asks how the State could ever complete a TMDL when they has failed to identify the contributions of these four facilities and potentially other. Commenter 89 requests additional diligence to regulate these small plants.

Response: Five non-major plants will be upgraded as part of the strategy. These plant upgrades may be necessary for local water quality issues. Please note that the smaller the plant, the less cost-effective the upgrades.

Comment # 420.

Commenters: C89, C93

The commenters request that the WIP include requirements to implement measures, including conservation practices, throughout each waterway segment. These are necessary to achieve the nutrient and sediment TMDLs by a date certain to meet reasonable assurance expectations. These include:

- Cover crops should be mandatory on all fields that where corn was in the prior growing season.
- Buffers should be required on tidal waters, streams and ditches.
- The switch grass buffer program as implemented by the Chester River Association should be adopted state-wide. Farmers should be required to plant stream/ditch/tidal waters buffers in switch-grass, should receive subsidy payments for loss of tillable land for three years until the switch grass is harvestable.
- Maryland should then establish local demand for switch grass by promoting or requiring regional businesses to install burners that can burn switch grass to produce heat/energy to create a market for switch grass.

Response: There will be requirements to implement conservation practices in each waterway, although not necessarily those suggested. It is dependent on local conditions.

Comment # 421.

Commenter: C112

The commenter provided EPA with the several new priorities and approaches regarding agriculture, with CAFOs in particular. These recommendations were then forwarded from EPA to Maryland.

- Set priorities
- Issue more individual clean water act permits
- Recognize that all CAFOs discharge

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- Require co-permitting for integrators
- Address accountability for off-site manure management
- Improve controls on application of manure to cropland
- Restrict or eliminate manure application in phosphorus saturated soils
- Consider future growth

Response: These have all been considered under the WIP process or previously.

Comment # 422.

Commenter: C76

The commenter requests that municipality and private WWTPs have clear and firm requirements that clearly limit additional point source discharges. These would require all permitted sources include a timeline and enforcement procedures. The commenter notes that finding funds to provide oversight is needed for it to be effective.

Response: The current strategy allows flows up to design capacity. Loads exceeding 4 mg/l times the design flow will not be allowed. The NPDES program provides adequate oversight.

Comment # 423.

Commenter: C73

The commenter states the need for better coordination between MDE Tidal Wetlands and the Critical Area Commission. The commenter points out living shorelines using marsh grass plantings require 6 to 7 hours of daily sunlight and if trees are not removed, the grass will not survive. Another alternative is for MDE to change their philosophy and not require living shorelines if the shorelines are wooded.

Response: The commenter states the need for better coordination between MDE Tidal Wetlands and the Critical Area Commission. The commenter points out living shorelines using marsh grass plantings require 6 to 7 hours of daily sunlight and if trees are not removed, the grass will not survive. Another alternative is for MDE to change their philosophy and not require living shorelines if the shorelines are wooded.

The Maryland Department of the Environment (MDE) closely coordinates its activities with the Critical Area Commission for the Chesapeake and Atlantic Coastal Bays (CAC) to ensure that licenses and permits do not conflict with critical area criteria. Over the past two years, MDE and CAC have met extensively on the implementation of House Bill 973 -- Living Shoreline Protection Act of 2008 to discuss projects and policies so that our programs work in concert. As a result of these meetings, guidance prepared by MDE addresses both bank orientation and tree cover. If the bank or cover can not be altered in an environmentally sensitive manner to allow for adequate sunlight to reach marsh vegetation, the applicant is directed to apply for a waiver because physical constraints make the construction of a living shoreline impractical.

Comment # 424.

Commenters: C67, C68

The commenters suggest that the WIP require buffers on all streams, statewide.

Response: Buffers are one strategy that will be used extensively, but such a mandate is not necessarily appropriate.

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Comment # 425.

Commenter: C83

The commenter points out that the WIP does not address the use of fertilizers on lawns and suggests that the University of Maryland needs to reassess nutrient guidelines for turf management. Guidelines for lawn application of nitrogen are currently set at 4 lbs/1,000 square foot of lawn, which is enough to produce a 172 bushel corn crop on 43,560 square feet. These amounts of nitrogen should be reduced by 50 percent to allow a maximum of only 2 lbs/1,000 square foot of lawn area. The commenter points out that farmers are required by law to apply fertilizer based on approved nutrient management plans but landowners, who account for 50 percent of Maryland fertilizer sales, are not required to have plans.

Response: The referenced information was included in the final submission.

Comment # 426.

Commenters: C55, C81

The commenters state that the application of fertilizers on urban lawns by untrained or certified individuals in fertilizer application must be banned if there is hope to achieve water quality goals. The commenters point out that fertilizer, as a source of nutrients, is not essential to the social or economic well being residents and a green lawn is not worth the harm done to the Bay.

Response: The final submission more extensively addressed this issue.

Comment # 427.

Commenter: C83

The commenter states that poultry litter is an excellent natural fertilizer for agricultural crops. Its primary use should be as a fertilizer on agricultural land that requires nitrogen and phosphorus.

Response: Agreed, but sometimes poultry litter is available in excess and must be disposed of appropriately.

Comment # 428.

Commenter: C81

The commenter points out that agricultural landowners are required to have nutrient management plans before using nutrients, yet homeowners have no such requirements and that 50 percent of fertilizer used in Maryland is non-agricultural. With expanded use of the Internet, the commenter suggests that the state develop an online resource for homeowners to accurately calculate their lawn care square footage with Google maps, calculate the amount of fertilizer they need, and when it should be applied. In addition, after a homeowner has completed a self-certification program that could include lawns, septic, energy saving, etc. they could be eligible for coupons donated by home improvement stores.

Response: Fertilizer packaging provides adequate use direction. The problem is that many homeowners don't follow the directions.

Comment # 429.

Commenter: C57

The commenter points out that there are several urban practices that are not specified in the WIP. Baltimore County has completed over 4 miles of shoreline erosion control. This is listed under

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agricultural practices (page 5-47), but not in the urban sector. Also, street sweeping and storm drain cleaning is not specifically listed in the WIP.

Response: The sector identified doesn't matter, since it can be used wherever applicable. This was not able to be addressed by the model, but efficiencies should be developed and submitted to the Bay Program for approval.

Comment # 430.

Commenters: C65, C70

The commenters suggest strengthening forest preservation goals by adding an element that identifies intact forests for protection as valuable clean water filters. Protecting intact forest is more effective and efficient than the present WIP proposal of planting trees for no net loss of forest. For example, the commenters point out that Army Corps of Engineers estimate that Mattawoman Creek watershed could lose 10,000 acres of forest in the next twenty years. The impacts of this cannot be mitigated, nor realistically be improved by increased planting.

Response: More explicit attention to forest conservation and management for healthy forest function/regeneration is an appropriate addition to the WIP. It is part of providing reasonable assurance that the State will be able to maintain nutrient loading caps into the future. Targeted areas for conserving forests for water quality are available from Chesapeake Bay Forest Conservation Goals (2007 Response to Directive 06-01).

Comment # 431.

Commenter: C44

The commenter suggests the following tools to encourage spending on stormwater retrofits:

- The State link funding from sources be tied directly to locally-derived stormwater match in the jurisdictions where the dollars will be spent. Potential sources include: the Water Quality Revolving Loan Fund, the Chesapeake and Atlantic Coastal Bays Trust Fund, and the Bay Restoration Fund.
- The State provide disincentives such as the recent fines that EPA levied on Anne Arundel, Harford, and Baltimore counties for non-compliance with their NPDES permits, since they are powerful motivators to put serious, rather than unuseful stormwater programs in place. The commenter states that there is no reason those fines could not have been issued by MDE, and in the future should be.

In addition, the commenter states that the state will only help those counties and municipalities who are willing to help themselves.

Response: Funding plans will be developed during Phase II. Enforcement by EPA or the State remains an option.

Comment # 432.

Commenter: C63

The commenter notes that the President's Executive Order 13508 makes it clear that EPA will be promulgating new rules to reduce nutrient impacts on the Bay from CAFOs. In addition, EPA will be evaluating the effectiveness of the current standards under the existing rule for CAFOs and other animal operations. Scientists from USDA and area universities have documented imbalances that the region's farms are making serious phosphorus contributions to the Bay's nutrient problems due to an over reliance on manure to enrich their soil. The commenter suggests that Maryland should phase-in

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more stringent nutrient management requirements so as to avoid complaints from industrial farms operators over potential EPA rule changes.

Response: There will be insistence on waiting until the EPA changes are final – a phase in would not be feasible.

Comment # 433.

Commenter: C84

The commenter states that stream restoration in urban and urbanizing areas should be included as an important practice for restoring the watershed and it should be coupled with stormwater retrofits in the drainage area of the stream being restored. The combination of stormwater retrofits effort along with stream channel restoration will maximize the benefits of nutrient and sediment reduction.

Response: Stream restoration in urban and urbanizing areas is included. There is significant interest in “stormwater conveyance systems” that restore stream channels and connect streams to the flood plain.

Comment # 434. WMA

Commenter: C54

The commenter states that regulations limit the use of shared facilities for water and sewer facilities in the rural areas of some counties. Perhaps this type of system should be explored for new communities in areas not currently slated for public utilities. A cost benefit/nutrient reduction analysis would be needed to determine if this type project is feasible; and if it may help to provide reductions needed to help achieve the TMDL for certain watershed areas.

Response: State regulations do not limit the use of shared facilities; however shared facilities must be listed in the county water and sewer plan and a government entity is required as a controlling authority. A controlling authority is necessary to ensure the operation and maintenance of the system in perpetuity. These requirements result in the use of shared facilities becoming a local decision that some jurisdictions have been reluctant to pursue. Cost benefit/nutrient reduction analyses would be useful in helping jurisdictions meet their nutrient removal goals and should be more common as jurisdictions plan their local strategies.

Comment # 435.

Commenter: C85

The commenter was surprised not to see any mention of a possible Transfer of Development Rights program. The commenter understands that this might be put off until the next round of documents but putting it in the present document would address the primary concern of many landowners reading it, the economics of Smart Growth. They will want to know that there is an incentive for them for moving forward with this.

Response: Section 3 of the Phase I WIP discusses smart growth as a fundamental measure to limit the increase in nutrient loads from new development. The State agrees that Transfer of Development Rights programs are an effective tool for achieving smart growth.

Comment # 436.

Commenter: C53

The commenter states that it would appear the offsets would be the same for development sites with equivalent imperviousness, regardless of Floor-to-Area Ratio (FAR). The commenter suggests there

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be an approach that incentivizes increased FAR, either by integrating a per capita factor and/or an FAR factor in stormwater management. The current WIP only discusses per capita issues in terms of water supply.

Response: See response to comment 89.

Comment # 437. WMA

Commenter: C82

The commenter points out other types of water quality restoration, which might more cost-effective than stormwater retrofitting, are not allowed as substitutions/trades, though there are trading programs established between WWTPs and agriculture. Frederick County proposed a trading program but this has not been accepted by MDE. The commenter, Frederick County, suggests that they be able to trade with agriculture or with other BMPs. For example, if the County were to pay for additional cover crops in the cover crop program, they would get credit for the reductions from the amount of the BMP they had paid for. Or get a partial restoration credit for land conservation activities (using a but-for option in a trading scenario) and track them through an established service like BayBank. Land conservation helps to protect and restore existing tracts of important green infrastructure, particularly in areas with local impairments.

Response: MDE will work with local governments to review specific proposals to meet WLA permit requirements. However, there are concerns that cover crop credits are annual and not long range credits, and land conservation will not provide additional reductions. Not so, such substitutions will be allowed. There may be other problems with the Fredrick proposal.

Comment # 438.

Commenter: C82

The commenter states that stormwater retrofitting is not the only water quality restoration that can occur in urban areas; for example, Frederick County is converting a significant area to trees. This is an effective mechanism for reductions from urban pollutants and should count under NPDES MS4 permit goals and not just under natural filter requirements.

Response: The State recognizes the significant cost for stormwater controls and commits to convening a group of experts to identify the most cost effective practices to achieve retrofit requirements. For example, the State Highway Administration has estimated using the most cost effective practices may reduce its costs by as much as two-thirds. This will not relieve the stormwater sector from other restoration goals that have longer time horizons, but rather, is designed to allow the stormwater sector to meet nutrient and sediment goals sooner than would otherwise be financially feasible. Controlling costs by using alternative means of achieving nutrient and sediment reductions is an option available to local governments. These alternatives may include funding reductions from non-urban stormwater sources pursuant to State and federal trading programs.

Finally, MDE has formed an NPDES Stormwater Workgroup composed of local jurisdiction staff to research new and innovative water quality treatment practices. MDE's goal is to develop a robust group of urban BMPs that can be implemented to ensure that Chesapeake Bay TMDLs and water quality standards are met. Maryland's NPDES Stormwater Workgroup is eager to work with the EPA to help develop appropriate efficiencies for ESD to the MEP, stream restoration, coastal plain step-pools, and other urban BMPs that EPA has yet to assign efficiency values.

Comment # 439.

Commenter: C96

The commenter states that the existing research literature suggests that urban fertilizer management can substantially reduce nutrient loadings from developed areas at far lower cost and with fewer practical difficulties than other strategies. On the basis of available literature, a combination of three nutrient management strategies could produce short- and long-term reductions in nitrogen and phosphorus loadings to stormwater runoff from individual home lawns and landscaped areas. These strategies include:

- Ban on phosphorus fertilizers except for new seedlings or critical areas; slow-release nitrogen formulations only
- Ban on sidewalk/driveway applications of fertilizers and clippings
- Fertilizers applied only by certified applicators in conjunction with soil testing when not using phosphorus free/slow release nitrogen formulations
- Limits on on-time applications and aggregate annual total amounts
- Manage grass clippings on lawn

The literature suggests that implementing the recommended measures described above could reduce phosphorous (TP) loading to stormwater by 25 percent to 50 percent and nitrogen (TN) loading by 10 percent to 20 percent. The cost to implement such measures for residential applications is estimated to be less than \$10 per year for a typical quarter-acre subdivision lot (assuming 5,000 square feet of managed turf per lot). Under contract with NAIOP, Wetlands Studies and Solutions analyzed the impact of this proposed fertilizer management strategy on reducing TP and TN loadings from pervious surfaces using the literature values (25 percent to 50 percent for TP; 10 percent to 20 percent for TN). For TP, fertilizer legislation has the potential to reduce loadings by 74,046 to 148,092 lb/yr (with 25 percent and 50 percent load reductions from pervious surfaces respectively). For TN, fertilizer legislation has the potential to reduce loadings by 427,187 to 854,373 lb/yr (with 10 percent and 20 percent load reductions from pervious surfaces respectively).

Response: These or similar suggestions were added to the final submission.

Comment # 440.

Commenter: C96

The commenter (NAIOP) recommends that Maryland WWTPs be upgraded to limits of technology (LOT) instead of implementing the proposed retrofits of urban impervious surface. For a much lower cost, more pollutants can be removed by upgrading WWTPs than by retrofitting existing impervious land. The following calculations indicate that WWTP upgrades to LOT are an order of magnitude more cost-efficient than urban retrofits per pound of nitrogen or phosphorus removed. In addition to the financial benefit, however, upgrading the point discharges represented by WWTPs is substantially more practical than attempting to retrofit tens of thousands of developed acres with BMPs that have unreliable removal efficiencies and maintenance requirements which make assessing their effectiveness very difficult. The commenter states that for urban retrofit, the cost for nitrogen/phosphorus removal would be \$6,000/\$34,000 annually per pound, compared to upgrading WWTPs to LOT, which are \$200/\$3,000 annually per pound

The commenter states that there are many sources which indicate that the current LOT, which is lower than that proposed in the MD draft WIP (4.0 mg/L TN and 0.3 mg/L TP), is feasible.

According to the Chesapeake Bay Program's publication, *Nutrient Reduction Technology Cost Estimates for Point Sources in the Chesapeake Bay Watershed* (November 2002), current LOT for

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significant municipal WWTPs is 3.0 mg/L TN and 0.1 mg/L TP; for non-significant municipal facilities, LOT is 8 mg/L TN and 2.0 mg/L TP. EPA is requiring LOT (3.0 mg/L TN and 0.10 mg/L TP) in four of the six watershed states.

Response: It may be feasible, but not sufficiently consistent in are regulatory/compliance environment to make it mandatory. Many plants are in fact doing better than 4.0 mg/l and optimal management is a permit requirement, but MDE's engineers have determined that 4 is the appropriate regulatory limit.

Comment # 441.

Commenter: C98

The commenter suggests that since MDE is revising MAFO permits, they should consider reviewing and increasing permit fines for non-compliance, some of which have not changed in 30 years. In addition, efforts should be considered to expand the Manure Transport Program to fill a loophole that does not cover responsibility for manure transfer between farms. The commenter suggests this can be accomplished by increasing the funding for this program, which is currently funded at \$350,000. The commenter states that overall what is needed is a revision of the P-index for nutrient management, while establishing alternative uses for manure.

Response: MDE reviews fines as it considers appropriate.

Comment # 442.

Commenter: C106

The commenter suggests that a better alternative to the P-Index is the P Saturation Test (P-Sat), which is comparatively easy and inexpensive to use. The P-Sat can be derived from soil tests that are already performed. Farmers are currently required to perform soil tests as part of their Nutrient Management Plans. Those same test results could include a P-Sat calculation.

A manure application policy based on P-Sat would be straightforward. If P-Sat is above a certain level, more manure or sludge cannot be applied. Many experts are recommending a threshold of 20 percent, and EPA used that level in its recently issued 502 Guidance.

The commenter requests that the state should prohibit application of manure and sludge to soils that are highly erodible or otherwise hydrologically unsuitable.

Response: The referenced information will receive significant scientific and technical attention in 2011.

Comment # 443.

Commenter: C106

The commenter requests that the final WIP include a requirement for cover crops on fields after corn is harvested or where manure or sludge is applied. In fact, several common-sense BMPs should be required of all farmers who apply manure or sludge to their soil:

- Cover crops must be planted on fields after corn is harvested.
- Manure must be stored in sheds or on slabs with a tarp.
- When manure or sludge is applied, it must be incorporated into the soil within 24 hours or injected.
- No manure or sludge application should be allowed from November through March.

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Other BMPs, such as setbacks from streams and ditches, have been well documented to reduce nutrient pollution effectively. They should eventually be mandatory for all farmers. As an interim measure, they could be phased in by only being mandatory for farmers who apply manure or for the largest farms.

Response: Some aspects of these suggestions are already requirements, others are within the strategies or contingencies.

Comment # 444.

Commenter: C98

The commenter states that innovation should be at the heart of the WIP for agriculture. New irrigation systems that are far more efficient, permeable barriers that catch nutrients at the head of the groundwater plume and other 21st Century technologies should be at the forefront of research and development, demonstration and piloting and tech transfer.

Response: Many innovative approaches including precision nutrient application, in-house composting and more nutrient efficient seeds have been included.

Comment # 445.

Commenter: C98

The commenter states that it is time for Maryland to require and incentivize efficiency, conservation, and reuse in the water sector. Pollution prevention; setting aside the more intact land based *green infrastructure*; no or very low development zone (such as the critical areas); and working with and mimicking nature within the built environment, whether it be retrofit, substantial redevelopment or new green fields growth all will go a long way to ensuring that Maryland can both grow to accommodate our economy and growing population while protecting the public's health and protecting and restoring our communities.

We must make the WIPs work with the state growth plan and corridors. In order to do this the commenter suggests to strengthen the Stormwater Act of 2007 with better and more creative uses of its harvested water and do, not just on-site infiltration, but neighborhood level collection, storage, and reuse in combination with sewage storage, treatment and reuse. If these stormwater practices are put into place, along with potable water conservation and distributed and decentralized reuse that emphasizes heat/cool exchange, methane extraction, nutrient recovery and reuse and water reuse.

Response: It is anticipated that the referenced practices may be included in local area documentation as part of the Phase II process, and that in the future, as reduction efficiencies are quantified for such practices, they may be credited in the Bay Model with specific nutrient load reductions.

Comment # 446.

Commenter: C98

The commenter states that one of the best opportunities and techniques for reducing loads in both urban and suburban areas are incorporating environmental site design and preserving forests and other open space as natural filters for infiltration and hydro-evaporation. The current administration has already shown that forest preservation is a priority and must continue to identify forest areas that will not be developed. However, that same attitude toward preservation has not been wholly embraced or implemented in the counties and municipalities. The commenter suggests a program be created to encourage and enforce reforestation as well as quantify both urban environmental site design and rural preservation and reforestation as reduces nutrient and sediment loads.

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Response: Beginning in January 2011, the State will begin the development of Maryland's Phase II Watershed Implementation Plan. The development of the Phase II WIP will focus on local jurisdictions, local watersheds and stakeholders. These issues will need to be addressed at that time.

Comment # 447.

Commenter: C98

The commenter states that the WIP should require the identification of areas providing the greatest benefit to local ecosystems, but require there be no net loss in these areas. A program and funding source, in addition to Program Open Space, should be explored to provide for the complete tracking and implementation to a successful result of no net loss forest.

Response: Current language in Maryland's Phase I WIP states, "*Strengthen Maryland's FCA by requiring that State and local FCA programs be amended to require a "no net loss of forest" approach. MDNR will work in conjunction with the Sustainable Forestry Council, local governments and other stakeholders, amendments can be crafted to meet this approach. The recommended approach would be to encourage forest mitigation banks and strengthen fee in lieu of payments where necessary to encourage banking. This approach would use forest mitigation banks to encourage the creation and retention of forests in areas providing the greatest benefit to local ecosystems and the Bay.*" Through a number of approaches local jurisdictions will be asked to identify areas providing the greatest benefit to local ecosystems in the Phase II WIP. A tracking and accountability system will be developed as a major part of the WIP and TMDL process.

Comment # 448.

Commenter: C109

The commenter believes using GPS in agriculture will provide an opportunity to improve nutrient efficiency. The commenter notes this technology is expensive and the commenter advocates for MACS cost-share support to encourage farmers to adopt this new technology or tax subtraction modification legislation to support the purchase of equipment to improve nutrient efficiency.

Response: MDA has included this strategy in the WIP.

Comment # 449.

Commenter: C98

The commenter states that to decrease nutrient and sediment runoff from urban areas, MDE is going to have to do more than stormwater retrofit and require new environmental site design for new and re-development. State policies will need to be put into place to require a true assessment and programs for significantly increasing urban tree canopy.

Response: TMDL and permit requirements will also help.

Comment # 450.

Commenter: C97

The commenter suggests that reducing nonpoint source loads from agricultural operations, including any necessary new regulations and better enforcement, should be part of the WIP. These must include readily enforceable mechanisms. The required reasonable assurances that Maryland will meet nonpoint source load limits dictate strong, verifiable measures to reduce agricultural nutrients and sediment loads. Assuring monitoring efforts at a reasonable scale for nonpoint source pollutants from

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agriculture is essential. The monitoring results should be available to the public. The implementation of BMPs needs to be publicly reported at a parcel scale.

The commenter requests that the WIP include a significant expansion of the CAFO designation to cover all but the smallest AFOs. All agricultural lands receiving manures from any AFO should be treated as a regulated entity/activity. It is equally important that assessment and accountability of all CAFOs and all other federal and state regulated agricultural activities be increased. Current state programs do not provide adequate assurance that the CAFO permits, particularly related to land application, and other state regulations of agricultural activities are being enforced. Enforcement must be assured.

Response: Reducing loads from agricultural operations is an important part of the WIP. Monitoring results will be available. Expansion of the CAFO designation is one of EPA's backstops, but is not included as a strategy in the WIP.

Comment # 451.

Commenter: C97

The commenter suggest that Maryland adopt requirements in its WIP for all land disposal of animal waste/manure that parallel Maryland's regulations under the MDE for the land disposal of human sludge from advanced wastewater treatment facilities. These requirements should include the provisions already extant for human sludge that require the incorporation of all animal waste/manure into soils within 24 hours of application on land, soil tests to assure the land is not phosphorus saturated, and that prohibit application on steep slopes, highly erodible soils, frozen ground, and in riparian buffers of up to 200 feet. See the Maryland human sludge disposal regulations at COMAR 26.04.06.09 (<http://www.dsd.state.md.us/comar/comarhtml/26/26.04.06.09.htm>).

The commenter states that the WIP should require that on agricultural lands receiving human sludge and/or animal waste/manure, cover crops should be mandatory for a minimum of one year after application. Even with the use of cover crops, sludge and animal waste/manure should be required to be injected or incorporated into soils within 24 hours of application. Further, the practice of human sludge or animal waste/manure application to fields with excessive phosphorus levels must be stopped. The WIP should require reducing phosphorus levels to agronomic requirements and soil tests before all applications of human sludge and/or animal waste/manure. These latter measures must be required to assure that phosphorus is not applied where not needed. The WIP should mandate whole-farm water quality plans for all agricultural lands including the next generation of nutrient management, with clear targets, a reasonable implementation schedule, progress checks, and enforcement.

Response: The suggestions are being considered and in part why the CAFO program has been moved to MDE's Land Management Administration, which addresses biosolids.

Comment # 452.

Commenter: C97

The commenter suggest that the WIP include provisions for improved water quality through systematic urban retrofits of large areas of developed lands such as shopping centers, large industrial sites, and other large impervious surfaced areas in private ownership, with mandatory measures and timelines for such retrofits.

The commenter states that the WIP should ensure that all federal and state facilities and public lands in the watershed undertake stormwater retrofits to meet TMDL allocations and state 2 year

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milestones. The federal and state facilities and lands should follow guidance developed by EPA pursuant to Section 438 of the Energy Independence and Security Act and Section 502 of Chesapeake Bay Executive Order (13508). All new government construction should meet a requirement for no net increase in rate, volume, or pollutants for a 5-year storm.

Response: These suggestions are part of the plan at least for urban and suburban areas.

Comment # 453.

Commenter: C97

The commenters suggest that the WIP should require a no net loss of forest coverage in each Bay watershed to achieve the TMDLs by a date certain to meet expectations. The WIP should contain detailed measures to expand forested buffer coverage to at least 85 percent of all the shores of the Bay and its tributaries.

The commenter suggest that the WIP target funds, such as from Maryland's Program Open Space and Agricultural Land Preservation Fund, for the fee simple or easement purchase of sensitive lands such as forests and wetlands on private lands and farm lands, especially those bordering the Bay and its tributaries. Acquisitions should take into consideration State Wildlife Action Plans and Green Infrastructure maps that have been updated to reflect the implications of climate change and expected sea level rise.

Response: Current language in Maryland's Phase I WIP states, "*Strengthen Maryland's FCA by requiring that State and local FCA programs be amended to require a "no net loss of forest" approach. MDNR will work in conjunction with the Sustainable Forestry Council, local governments and other stakeholders, amendments can be crafted to meet this approach. The recommended approach would be to encourage forest mitigation banks and strengthen fee in lieu of payments where necessary to encourage banking. This approach would use forest mitigation banks to encourage the creation and retention of forests in areas providing the greatest benefit to local ecosystems and the Bay.*" Forest coverage for each watershed is a good approach but will need to be evaluated as the comprehensive approach to no net loss is considered. All acquisitions made through Program Open Space now use MDNR's Ecological Ranking Protocol which requires that Green Infrastructure, Forest Conservation, RT&E habitat, and freshwater fish habitat are not only included but ranked in the acquisition process.

Comment # 454.

Commenter: C97

The commenters suggest that the WIP must include provisions that require all new and replacement septic systems to use the BAT for nitrogen removal. The WIP should include requirements for implementation of a mandatory septic inspection program for existing systems, with a requirement for a BAT system for nitrogen removal in failing systems. The WIP should also contain requirements to evaluate existing clusters of septic systems for connection to centralized sewage treatment that uses ENR.

Response: See response to comment 115.

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Comment # 455.

Commenter: C103

The commenter suggests the final plan should incorporate a revision of the rule for when farmers put manure on their land, continuation of upgrades of WWTPs, and a 30 percent retrofit requirement in MS4 permits that address infrastructure funding shortfalls.

Response: Application of manure is being handled through the CAFO program and comprehensive nutrient management plans. The WWTP upgrades will continue. The retrofit requirement will total 50% by 2020.

Comment # 456.

Commenter: C91

The commenter notes the concept of *Residual Designation* is not specifically mentioned in the WIP, yet the topic would be an important tool for closing the gap. The commenter states Residual Designation has been put forward by the Federal government in the document *The Next Generation of Tools & Actions to Restore Water Quality in the Chesapeake Bay* dated September 9, 2002 as a means of securing TMDL compliance. The commenter expresses that MDE and EPA must agree on how they will institute Residual Designation, particularly as it relates to supporting the efforts of local government to achieve load reductions from currently unregulated private sector entities.

Response: MDE looked at the benefit of requiring MS4 type controls for jurisdictions not currently regulated and found that it did not make a significant difference.

Comment # 457.

Commenter: C109

The commenter believes that the real opportunity for reduced loss of nitrogen and phosphorus from agriculture will be from improved nutrient efficiency. The commenter notes that new plant genetics, irrigation systems, variable rate nutrient application on the basis of split application, infrared sensors and slow release fertilizers are a few of the technologies being embraced by Maryland farmers. The commenter states it is imperative that farmers be given credit in the Bay model for these nutrient savings.

Response: The referenced information is in the WIP.

Comment # 458.

Commenter: C109

The commenter states that priority must be given to increase the oyster population to provide a necessary filtering system, once accomplished, the commenter states the water will continue to support a population of oysters to provide a food supply.

Response: Filter feeders are important to Bay fisheries ecosystem and species such as oysters, menhaden, are being evaluated for their nutrient removal potential. Currently, the Chesapeake Bay Program Model has no mechanisms to calculate their benefits and methodologies are being investigated to correct that.

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Comment # 459.

Commenter: C108

The commenter suggests that increased inspections and enforcement of sediment and erosion control laws be included as a required activity in the WIP.

Response: The WIP is plan and does not by itself require anything. Inspections are constrained by resources.

Comment # 460.

Commenter: C104

The commenter encourages MDE to ensure strong action to limit rural sprawl, including prohibiting major developments on septic systems and requiring local jurisdictions to address future growth in their Phase II WIPs.

Response: See response to comment 89.

Emerging Technologies

Comment # 461.

Commenter: C11

The commenter notes that duckweed grows in this area and it consumes nitrogen and phosphorus from the water and if it is harvested, the biomass removed from the waterway will significantly reduce nutrients prior to reaching our Inland Bays. He comments that Dr. Bryan Tracy from the University of Delaware is working on a method to produce Butanol, a bio fuel, from duckweed. His company, Elcriton, is applying for two Small Business Innovation Research (SBIR) grants to study the feasibility of using duckweed for reduction of nutrients from our bays while generating material for a bio fuel and then using the remaining biomass as a feedstock for agriculture.

The commenter would like to grow duckweed in several sites that have excessive loads of nitrogen and phosphorus, namely tributaries to the Pocomoke and Nanticoke Rivers that run to the Chesapeake Bay and the St. Martins near Bishopville, which is ponded with large amounts of duckweed. The harvest from this pond would help the bay behind Ocean City. The commenter is seeking permission to harvest duckweed from designated areas and would like a meeting with Maryland to further discuss the plan. He attached Dr. Tracy's outline for the two SBIR projects which he is applying.

Response: Comments for the WIP is not the place to make such a request. It should be pursued through the MDE Water Management Administration to determine what permits or permissions will be needed.

Comment # 462.

Commenter: C12

The commenter has two technologies to proposal to MDE to stop phosphorous from leaving the chicken farms and agricultural farm runoff and into Chesapeake Bay. These are 1) Placing anchored- in- place booms at farms in a tortuous water flow path that will allow water to soak through so that ingredients of the boom absorb phosphorous (PhosFilter); and 2) Use Cree Industry dissolving logs (CreeLogs) to introduce formulas for problem areas including oil spills, septic, petrol spills, and mosquitoes breeding sites. The commenter attached additional information to his comment letter.

Response: The State of Maryland cannot endorse proprietary products.

Comment # 463.

Commenter: C15

The commenter has been observing the effort being directed towards the Chesapeake Bay Watershed cleanup efforts. He states that while the progress made to date has been significant, the challenges ahead will continue to require commitment, diligence and execution of a well designed comprehensive strategy. He shares information about the company he represents, Algae Producers of America (APA) and its partner organizations, has achieved in nutrient reduction.

The potential use of algae-based technologies to reduce nutrient loads is a recognized technology. The U.S. Department of Energy Aquatic Species Program identified this technology as a viable use of the nutrients inherently present in wastewater treatment facilities. APA has demonstrated the ability to significantly reduce nutrient loads on a year round basis at multiple sites such as 75–99 percent phosphorus reductions to <0.03 mg/L and 71 percent nitrogen reductions to <0.20 mg/L.

His technologies offer several distinct advantages over Enhance Nutrient Reduction (ENR) technology: 1) based on the incorporation of a “bolt-on” closed system using treatment modules that can be sized to the individual need to allow for a smaller footprint than conventional “open pond” designs. For example, a two acre site based on our solution could treat up to 10M GPD. 2) Being a bolt-on design, no significant change to an existing infrastructure is necessary. The technology will accept incoming effluent from either a primary or secondary treatment stage and the resulting post-treated effluent can either be directly discharged or be further processed for chlorination if desired. In addition to reducing nutrients, the use of an algae-based solution to reducing nutrient loads at point sources has other benefits, including the ability to reduce greenhouse gas emissions.

Response: MDA is piloting an algal scrubber. If the efficiency of algae based technologies is established, such practices can be counted.

Comment # 464.

Commenter: C50

The commenter states that farmers may reduce nitrogen without losing yield through adaptive management as implemented through the On-Farm Network, both in the Chesapeake Bay and the Midwest (www.bayonfarmnetwork.org and www.isafarmnet.com). The commenter notes that the On-Farm Network approach has been documented and currently implemented in nine states, with farmers reducing their nitrogen use by 25 percent or more on average after participating for two or more years, with 80% of participating farmers making changes. Through the On-Farm Network, farmers work in collaboration with their peers and advisors to evaluate nutrient recommendations and make field-specific improvements with documentable benefits. The system advances data-drive adaptive management, overcomes some of the key hurdles to advancing more effective nutrient management – the disconnect between farmers’ economic interests and environmental stewardship, a failure to incorporate a viable way to evaluate how well nutrient management plans and recommendations work, and the inability of current recommendations to provide accurate field-specific nutrient recommendations. Adaptive management and the process it introduces for tracking and documenting management and improvements enables farmers not only to go beyond basic nutrient management implementation but to document those nutrient benefits with much more meaningful metrics. The commenter states the improved documentation and more meaningful metrics opens new opportunities for nutrient management to give buyers of nutrient trading credits greater confidence and a new way for farmers to be accountable and show that accountability. With the important role Maryland’s WIP

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places on nutrient trading to help advance cost effective reductions, the improved accountability of the On-Farm Network and adaptive management offer great opportunities to the state.

The commenter suggests three critical actions Maryland can do to achieve nutrient reduction goals and increase significantly the impact and benefits of investments in nutrient management.

- Revise the guidelines and payment structures of the state nutrient management programs to shift from a generalized approach to one based on evaluation, adaptation, and improvement and advocate for similar changes in federal nutrient management programs as implemented in the state, thus achieving greater nutrient reduction benefits with those same dollars while farmer yields and profitability are protected.
- Play a lead role in working with partners—public and private—to build and maintain the infrastructure to advance adaptive management of nutrients through cost share programs and partner contributions. This infrastructure will coordinate and support the data management and analysis (while protecting farmer confidentiality) and farmer engagement that drive the success of this effective approach.
- Work with key partners to advance a training program for farm advisors – public and private – to educate these key leaders in how to implement adaptive management programming to achieve success.

Response: The improved management of nutrients through adaptive management is part of the agricultural WIP. The Maryland Department of Agriculture and NRCS are currently looking at program options to implement an adaptive management programs.

Comment # 465.

Commenter: C109

The commenter states that while poultry litter injection equipment is still in the experimental phase, incorporation using vertical tillage equipment such as the turbo-till is showing positive results to reduce nutrient runoff, while still maintaining the integrity of no-till. The commenter notes this vertical tillage equipment is expensive and the commenter advocates for tax subtraction modification legislation to support the purchase of this equipment to improve nutrient efficiency as MACS funding is not available to support this BMP. The commenter notes as injection technology becomes available, farmers will need financial support to invest in this equipment.

Response: Maryland's WIP recognizes that incorporation of poultry litter is a viable alternative to injection and MDA is providing information to the Bay Program modelers on acres that utilize incorporation of poultry manure. Maryland is committed to investigating an income subtraction modification for incorporation equipment.

Funding and Resources

Comment # 466.

Commenter: C14

The commenter states that all the proposed BMPs, particularly in the Best Farming Practices (BFP) section, the Natural Filters section, and the Farming BMP section, sound reasonable, but there needs to be significant funding allotted to ensure that those BFPs are actually having the desired effects on reducing nutrient and sediment pollution. The WIP does not spell out that there will be funding for

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monitoring but the BFPs and other BMP strategies must be monitored for at least several years to ensure they are having the desired effect. This monitoring morning will enable future funds to be allocated to the strategies that are most effective.

Response: Noted.

Comment # 467.

Commenter: C16

The commenter lives on a poultry farm and feels that poultry farmers are considered as bay polluters to the public and a high risk business to the banks. He states that on average, poultry farmers are charged interest rates of 6.75 to 8 percent for loans and mortgages. He would like to improve his operations to reduce utilities and improve environmental concerns. He has minimal control over our loan interests etc. and sustains losses every year without being able to restructure loans with better terms and interest rates or get financing for future improvements. He feels that it is beneficial to help and restructure farm operations for an improved water quality for the Chesapeake Bay, however, these improvements have a cost and family farmers have no financing avenue. Small family owned farms are economically under enormous pressure and his operation is not profitable and is close to closure. He suggests that conventional financial institutions will not lend money for the improvements and modifications for green energy and water controls on the basis that the costs are not justified and interest costs are above current income of farmers. The Agriculture and Soil Departments only pay a small portion for a few projects however, in most cases farmers have to come up with majority portion of the improvement funds.

The commenter proposes to establish a local entity for Delmarva called "Delmarva poultry fund." This should be a small and locally run authority or another poultry organization that has interest and knowledge in our farming community. Its goal would be to clean the environment around the farms and to increase green energy usage at the farms. The entity would secure resources, for example grant funds, for clean up and upgrade of the poultry farms in Maryland from the following: EPA or the departments of Agriculture or Energy, or the Treasury. This fund would be given to generate green power, reduce pollution, and generate jobs to maintain sustainable farming. This new entity would offer 30 year loans for farms at 3 percent to replace existing loans on the poultry operations that are held by other financial banks, which are unable to give low interest loan for refinancing farmer's mortgages and pollution reduction. The interest reduction is critical to improve the farmer's cash flow which enables the farmer to reinvest in the new improvements. Without restructuring the poultry loans and the reduction of loan interests for farmers, there is no sufficient source for other project improvements. This new entity would hold or replace the current mortgages that are secured by the farmer's assets with loans from the Delmarva poultry fund.

The commenter estimates that once the dollar investments are allocated from the government, with a replacement of mortgages of \$1 billion at 3 percent that the fund will generate \$30 million per year in interest income paid by farmers with an additional savings for individual farmers of \$30 million. This interest expense reduction will create more money for the farmer to be reinvested. These loans and improvements would start with larger poultry operations that will provide the most impact. With the dollars from the seed fund and the annual interest income the following could be achieved: Farmers could invest in solar hot water for heating the poultry houses, bird's litters, and the residential homes on the farms resulting in reduction in utilities. Farmers would install existing and new technology in electric solar panel for lighting and usage for operations at the farm. For water control farmers could install water retention systems for timely redistribution and reuse of rain water on land in order to reduce runoff. Farmers could install water runoff retention pads to reduce runoff towards the ground and invest in trees. Farmers could invest in existing technology in bio-char systems at farms to reduce

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the carbon footprint from the poultry litter. This would generate technical and construction jobs in the community. This financing would make it all possible to ensure the improvement of clean water in the Bay. This entity with its specific goal would have a large purchasing power and the ability to manage without the large operational expenses of a commercial bank and this entity could be duplicated in other farming areas with similar needs. The availability of funds and the investment is the key factor.

Response: The Maryland Department of Agriculture has a Low Interest Loans for Agriculture Conservation (LILAC) program to assist farmers with conservation practices. The loans are at below market rates and are at the 3% rate the commenter suggests.

Comment # 468.

Commenters: C17, C19, C45

The commenters are concerned that the newly installed heavy use poultry pads, poultry waste structures, and poultry manure storage structures may be considered by EPA to be impervious surfaces and such a designation could be used against the chicken industry and agriculture's efforts on water quality improvements. The commenters are also concerned that anticipated Maryland legislation to create a state fee or tax on impervious surfaces will be harmful to chicken growers trying to install this proven BMP.

The chicken growers are installing practices to improve water quality, but they may face additional taxes because of their stewardship. Impervious surface tax legislation must be written to exclude BMPs called for in state sanctioned, state reviewed nutrient management plans or comprehensive nutrient management plans whether the tax/fee is retroactive or just applies to new impervious surfaces.

Response: MDA will follow up on this concern with MDE.

Comment # 469.

Commenters: C17, C19

The commenters note that the WIP includes participation in the nutrient trading program. They state that to encourage more credit sellers to participate, we urge the state to make the earnings from the sale of credits free from any and all Maryland taxes and to work with Congressional members from throughout the watershed to make the earnings free from federal taxes. Taxing the earnings will serve as a disincentive for potential participants.

Response: See responses to comments 89, 146 and 233.

Comment # 470.

Commenters: C17, C19

The commenters point out that farmers and chicken growers depend upon their county conservation districts to identify better ways to operate and to provide technical assistance to get practices identified, designed, and installed. The districts are woefully understaffed and the WIP must recognize this deficiency and include staffing and financial resources to allow the required on-farm work to be done.

Response: Bay Cabinet is aware of this issue. Part of Phase II is to find funding and resources.

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Comment # 471.

Commenter: C25

The commenter notes the difficulties that the relatively small water and sewer operation has in paying for the many unfunded mandates and set asides that continue to drive up its operating costs and thus water and sewer rates. The commenter is concerned that the WIP will have ever rising standards whose costs are to be met at the local level and on local rate payers. The increase of the Bay Restoration Fund (BRF) surcharge by as much as 80 percent or possibly even 100 percent-as proposed by the Chesapeake Bay Foundation-alone will create a firestorm in his community, which has a significant number of senior citizens on a fixed income and low income families, with limited means to absorb rising water and sewer bills. The commenter states it is unrealistic and unwise to move forward with policies that will put an ever increasing burden on local government and local taxpayers at a time when there are still serious economic difficulties.

The commenter suggests that the WIP needs to be scaled back and the timetable adjusted to provide an opportunity for the national economy to recover as well as giving the State an opportunity to look for creative ways to finance the new operating standards in a way that will minimize the impact on local homeowners and businesses, such as having a program for low income water users that goes beyond the current BRF assistance program would be something that should be considered by the State.

The commenter states that holding small operations to the same standards larger operations, with a broader customer base and a greater ability to absorb increased operating costs as well as a greater ability to have a negative impact on the environment, needs to be examined. He suggests a set of standards that is scaled on the basis of per capita factors would be more equitable for those of us challenged with smaller volume of business and smaller impacts.

Response: The timetable for Phase II may be extended. The Bay Community has been waiting for almost three decades for significant progress on the Bay Restoration. It is unlikely that the cleanup timeframe will be extended.

Comment # 472.

Commenter: C26

The commenter notes that MDE has proposed to maintain the point source cap load that is consistent with the State's stringent ENR strategy. With full funding of the Bay Restoration Fund (BRF), this approach will provide relatively fast and measureable reductions in nutrient loads to the Bay.

Response: The referenced strategy is included in the final submission.

Comment # 473.

Commenter: C26

The commenter does not feel that BAT should be forced upon homeowners of failing septic systems outside the Critical Area, who are often income-limited, unless 100 percent funding is made available to homeowners. For those property owners that have existing septic systems or failing septic systems who want to voluntarily upgrade their septic tanks to BAT systems, the funding should continue to be income based.

Response: The septic strategy was modified in the final submission.

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Comment # 474.

Commenter: C26

The commenter notes that although the nitrogen load reduction is significant when wastewater treatment plants use ENR technology instead of septic systems, even with BAT, that unless a public sewer system is easily or readily accessible, the economic impacts become the limiting factor for using a public system.

Response: See response to comment 115.

Comment # 475.

Commenter: C26

The commenter asks that in regard to Section 2.2.2.4 (Stormwater and Fiscal Capacity) if it is expected that individual jurisdictions develop a funding sources, such as a Stormwater Utility, to address stormwater remediation.

Response: The referenced strategy was included in the final submission.

Comment # 476.

Commenter: C27

The commenter represents a small municipality and states that they, like every other municipal government in Maryland, have lost 90 percent of our Highway User Revenues and over 35 percent of our Police Aid. The commenter notes that while the State of Maryland has cut funding to local governments there have been unfunded mandates. The commenter's concern is not money, the prospect of spending limited resources on a public policy doubtful to improve water quality.

Response: In many respects, the practices in the WIP have been proven to improve water quality, especially WWTP upgrades.

Comment # 477.

Commenter: C28

The commenter would like to reiterate the need for adequate funding for the implementation of retrofits and new BMPs as well engineering, inspection, and monitoring costs. Gaithersburg has no new source of funding for additional projects.

Response: Funding strategies will be part of Phase II.

Comment # 478.

Commenter: C28

The commenter suggests that State and Federal governments acknowledge the current fiscal crisis local governments are facing and provide appropriate support through new funding and authority to raise new revenues. The current deadlines require all plans to be approved before State legislatures even meet.

Response: Phase I is subject to modification in the Phase II process, which should be complete before the General Assembly meets again in 2012.

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Comment # 479.

Commenter: C28

The commenter notes that the adoption of stormwater site plans, which use many small facilities, will significantly increase expenses for inspection and maintenance and funding must be provided to the local governments and private communities that will provide these services.

Response: Noted.

Comment # 480.

Commenter: C28

The commenter requests that local governments must directly receive and control over funds from additional taxes or other revenue sources are to the extent they are authorized, so they can receive all the money and make use of the money in the best way given their understanding of local conditions.

Response: The funding strategies will likely be local for local programs.

Comment # 481.

Commenter: C32

The draft WIP does not disclose the estimated funding and personnel gap and does not explain how this gap will be filled to ensure that the state has and maintains an effective stormwater program. In addition, the draft WIP gives no indication of whether MDE currently has adequate funding and personnel to run an effective air pollution prevention program and thus does not provide assurance that reductions from air deposition will occur. If in fact local authorities have an inspection rate of 30 percent, this rate would exceed the rate recommended by EPA.

Response: Funding strategies will be developed during Phase II and will likely involve local approaches such as stormwater utilities.

Comment # 482.

Commenter: C34

The commenter states that the BRF does not have sufficient funds to help with pollution from septic systems, because the Legislature has re-allocated these to other programs like cover crops, so these funds need to be restored to their intended use for upgrading septic systems. More funding sources must be found to supplement the BRF to enable attainment of Planned Activities for septics. In addition to increasing available funding, the commenter encourages enactment of regulations that would require inspection and upgrades of septics within the 100 feet buffer zone by 2020.

Response: An advisory committee will make a recommendation on this shortly.

Comment # 483.

Commenter: C40

The commenter (City of Frostburg) is under consent order to separate its combined sewers, an estimated to be a \$25 million, 20-year program. It has received significant help from MDE, EPA, Community Development Block Grant (CDBG), and Appalachian Regional Commission (ARC) funding. However, a significant local CSO surcharge has been levied and was recently increased to ensure that the City can remain on target. With new mandates on the horizon, taxpayers are facing additional charges from the WIP, on top of an expected increase in BRF assessments that send money to MDE, and which we acknowledge have helped pay for our CSO efforts.

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The commenter is concerned that the local governments will be burdened with the cost of the WIP and does not see evidence otherwise in the WIP and states that funding sources are not well defined in the Phase I WIP from Maryland and notes use of the verb ‘may’ indicating uncertainty about where funds will be found. A mandatory stormwater utility bill has been drafted by the Chesapeake Bay Foundation; however, it is not certain that revenue can be collected commensurate with what will be required, and the smaller jurisdictions will be challenged to raise significant revenue without very high household fees. Federal funds are seen as available primarily to the State, with the prospect of staffing help for MDE to provide technical assistance and enforcement as a primary State goal; local projects may see little Federal assistance. State and Federal budgets are and will be constrained by budget deficits.

Response: Additional local funding mechanisms will likely be necessary.

Comment # 484.

Commenter: C40

The commenter notes that the 20 percent retrofit mandate may not be fair to small communities unless specific funding is identified for local projects to supplement limited local revenue. As a small municipality, the commenter is concerned with the measure to mandate a 20% retrofit over 5 years. The procedure and costs are not well understood at this time, but such a mandate could be expensive. In its region, the development community will not be able to fund these costs; therefore, they anticipate a mandate for local government capital investments at a rate of about 4 percent per year, with 18 months. While a stormwater utility could generate some funding, there are other needs for this revenue. The commenters state that unless there are a major ‘trading for cash’ opportunity, which is not well understood, or major sources of funding, WIP retrofitting will overwhelm their ability to pay.

Response: At this time, the strategy applies only to Phase I and II MS4 jurisdictions.

Comment # 485.

Commenter: C43

The commenter points out that the WIP shows that current capacity for agriculture, urban stormwater and septic systems will need to increase by 3 to 7.5 times. The amount of capacity expansion is unrealistic in the short time frame proposed and the current difficult economic times. For example, the commenter states that Maryland is currently understaffed for the required employees needed to implement existing programs (per State Law in the Agricultural Article § 8-405). Additional positions will be needed to meet expanded programs proposed in the Phase I WIP. The commenter is concerned about his county’s ability to fund the necessary staff positions to successfully implement the WIP’s objectives.

Response: Everyone should be concerned about these issues and the fact that restoring water quality is a legal requirement, enforceable by several EPA backstops that could seriously modify local goals and priorities. The trade-offs will need to be made.

Comment # 486.

Commenter: C43

The commenter requests that the WIP include discussion regarding how the State and Federal government plan on cost sharing and developing financial assistance to local government to offset the additional expense to implement new requirements to protect the Chesapeake Bay.

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Response: Funding strategies will be addressed in Phase II.

Comment # 487.

Commenter: C33

The commenter notes that during limited economic times, fiscal and resource budgets determine the extent of requirements, programs, and projects that can be achieved within the constraints of significantly reduced inputs. Local governments are operating very lean, with falling revenue, limited resources, and reduced staffing. The commenter notes that the future local outlook appears more questionable than promising.

Response: See response to comment 485.

Comment # 488.

Commenter: C33

The commenter notes that offsets for future loads are placed in three categories and the moderate per capita load category refers to areas served by state-of-the-art sewage treatment. If “state-of-the-art” sewage treatment means ENR, it will be difficult to achieve Smart Growth in these smaller communities without significant funding assistance for upgrade. The commenter points out that on page 4-6 a bullet indicates that point source loads do not account for the shortfall in ENR upgrade funding. The commenter states this is a critical factor in the feasibility of achieving these goals by 2017.

Response: ENR upgrades are targeted to the 67 largest WWTPs in Maryland, which includes ENR upgrades for several towns with less than 5,000 people. This will support smart growth in smaller communities in Maryland.

Comment # 489.

Commenter: C33

The commenter notes that text on page 3-10 indicates that the BRF was instituted to fully fund the ENR upgrades to major WWTPs. The commenter states that if this is a commitment on the State’s part and already included in the 2-year milestones, additional funding is needed to ensure this can be fully implemented.

Response: Agreed. Additional funding will be sought in the future.

Comment # 490.

Commenter: C33

The commenter asks what if funds are available for all the measures needed to achieve the targets in regards to the sixth paragraph on page 4-3.

Response: The commenter refers to the gap analysis in Chapter 4. In order to estimate loading gaps related to nitrogen and phosphorus reductions in the future, the analysis was conducted assuming full funding would be available in future years to achieve the reductions. The text acknowledges, however, that anticipated progress is based on financial commitments that are “necessarily uncertain.” An example of the type of funding commitment envisioned is the BRF for wastewater treatment plant upgrades to ENR. These costs represent large capital expenditures over time and, if fully funded, will account for significant reductions by 2017. There is more detail on the funding options and State commitments related to BRF and other strategies in Chapter 5, beginning on page 5-21. Following

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each strategy, there is a funding sub heading and a funding strategy sub heading where appropriate to identify available funds to achieve the targets.

Comment # 491.

Commenter: C33

The commenter points out that the septic system upgrade implementation is administered and managed by local health departments and if an accelerated effort to upgrade septic systems is to be successful, more capacity is needed at local health departments.

Response: Looking at local capacity in a number of areas is one of the first things that need to be done during Phase II.

Comment # 492.

Commenter: C33

The commenter suggests that the statewide land use layer should be updated more frequently than every five years given the two-year milestones and the target timeframes. The commenter suggests the land use layer should be updated annually or on an ongoing basis given the pace at which implementation and accountability is needed. The updates should include local data to reflect as many implementation activities as possible.

Response: More frequent updates to the statewide land use layer are not possible at this time. Other methods to track development impacts can be used to inform local and State efforts to account for growth on an annual basis, such as local government annual reports and the MDPropertyView database described in Section 6.3.2.

Comment # 493.

Commenter: C33

The commenter states that whether WIP goals can be accomplished cannot be answered without cost estimates and specific workload analysis and the WIP is silent regarding to cost estimates.

These cost estimates and local government loading reduction expectations need to be included in the WIP for local jurisdictions to evaluate the level of commitments that can be made. Local staff and the public need to be made aware of the fiscal and resource demands of the WIP.

The commenter feels the biggest remaining question for each Option/Action is on the expected cost and load reductions for each to effectively make decisions on the feasibility of certain commitments expected for the Phase II WIP. Local jurisdictions will not be able to choose and commit to certain options without cost information and estimates of additional capacity needed in other areas. It is also critical to provide local jurisdictions with an estimate of the expected load reductions from each option.

Response: Estimated costs were added to the strategy discussion in the final submission. Funding strategies are an important part of Phase II.

Comment # 494.

Commenter: C36

The commenter is concerned with the apparent inequity in the funding methodology for costs associated with mandatory ENR upgrades. The WIP outlines a strategy for major wastewater treatment facility grants to cover the cost of upgrading, however minor plants serving small populations are ineligible to receive BRF for upgrading to ENR standards. The commenter asks how

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minor facilities are to cover mandatory upgrades costs given the small populations of users. The commenter is also concerned about maintenance costs for ENR systems, which require certified technicians and increased electricity. The commenter suggests that small system users benefit directly from their contributions to the BRF; whether this tax remains the same or is raised, a portion of that funding should be made available to minor treatment plant users. In addition, the commenter suggests the state establish a program to assist with operation and maintenance costs for EMR systems by adding County staff or private contractors to assist municipalities as they upgrade and maintain these small plants.

Response: A BRF funding approach will be developed over the next year and could be structured to cover capital costs for the minor plants. Operations costs will need to be discussed during Phase II.

Comment # 495.

Commenter: C36

The commenter states funding for local personnel capturing voluntary structural and nonstructural practices will be essential in reporting local compliance with Baystat initiatives. This additional staff would: 1) capture non-program-implemented practices to expeditiously complete all conservation plans; 2) update expiring plans; 3) verify funded and unfunded practices in the field; 4) document practices meet NRCS standards; and 5) report data into Conservation Tracker for credit.

Response: See response to comments 485.

Comment # 496.

Commenter: C36

The commenter points out that more technical support is required from the University of Maryland Extension and private consultants to assist producers with adoption and implementation of Precision/Decision agricultural management practices and to promote and support the implementation of other innovative conservation practices.

Response: Agreed.

Comment # 497.

Commenter: C36

The commenter points out that the Upper Chester River has been chosen as a Showcase Watershed and as such, many of the costs associated with BMP implementation are being covered, however, funding is temporary. The commenter states that when the funding source dissipates, these initiatives will fall to local plan reviewers. This eventuality begs the question: How will the County fund initiatives in other watersheds? With increasing expectation placed on county and town staffs who oversee WIP and TMDL initiatives funding is essential in covering the cost of this additional workload.

Response: See response to comment 485.

Comment # 498.

Commenter: C37, C58

The commenter requests the WIP include a discussion and identification of potential funding options and methods. The commenter suggests the following funding options: 1) The federal-state Bay financing authority that originally from the Chesapeake Bay Blue Ribbon Financing Panel in 2004 that would be capitalized by \$15 billion in federal and state matching funds; 2) enhancements to the

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2004 Chesapeake and Atlantic Coastal Bays Restoration Fund; and 3) creation and adoption of stormwater utilities for each county.

Response: See response to comment 485.

Comment # 499.

Commenter: C38

The commenter notes that at the public meeting in Timonium, the District Manager for the Harford Soil Conservation District stated that a number of farmers in his District are willing and eager to implement better NMPs and other BMPs designed to reduce nutrient and sediment runoff, but that they do not have the technical assistance needed. In addition, other speakers emphasized the need to provide such technical assistance. The commenter notes that the \$188 million appropriated by the Federal Farm bill should go a long way to reimbursing the costs of implementing these programs. After the meeting the commenter spoke with John Rhoderick from MDA, who confirmed there was a budget gap and added that although the Maryland legislature had appropriated \$400,000 to fund such technical assistance with MDA and at the soil conservation district level, the funds could not be appropriated because of budget problems. He expressed the hope that by the end of the year some or all of those funds could be restored and the needed technical personnel hired.

The commenter urges Maryland to find the necessary funds to hire technical personnel so that farmers who want to implement sound NMPs and BMPs can get the technical assistance needed. The commenter suggests that the Chesapeake Bay Trust Fund could provide this funding. In addition, in Section 2.2.6, the WIP describes the Maryland Agricultural Water Quality Cost Share Program and other federal, state and local funding and technical support for nutrient runoff control programs which might be helpful. The commenter concludes that if Maryland cannot help Maryland farmers implement effective NMPs and BMPs, it will not be able to achieve its water quality objectives.

Response: The State recognizes the issue and is working to address it.

Comment # 500.

Commenter: C38

The commenters note that the draft WIP describes a number of available resources, but does not always clearly state how these will be applied to achieve specific objectives. The commenter requests specific connections be made in the final WIP.

Response: Question unclear; need more specifics for a response.

Comment # 501.

Commenter: C38

The commenter notes that the Chesapeake Bay Regulatory and Accountability Program and EPA grants should be available to assist Maryland in implementing and expanding its capabilities to meet the water quality goals. It is important that Maryland access these funds to help strengthen its programs. Page 2-29 of the WIP describes the CWA Section 319(h) grant program to help fund state nonpoint source management projects which Maryland implements under its Water Quality Protection and Restoration Program which is part of MDE's Science Services Administration. Making full use of this program is also important to assure effective non-point source reductions.

Response: These funds are being used, but are not sufficient for meeting implementation needs.

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Comment # 502.

Commenter: C48

The commenter notes that funding has been and remains a critical issue for ENR upgrades. The State's Draft WIP recognizes this critical issue. As the State considers how to address this funding shortfall, the commenter requests the State to do so in a manner that fully funds all 67 major ENR projects.

Response: A goal of the WIP is to address funding shortfalls for ENR upgrades.

Comment # 503.

Commenter: C50

The commenter states that without enough qualified and trained people to reach out to, educate, assist, and follow up with critical players such as farmers and forest landowners, meeting nutrient and sediment reductions from agriculture will be extremely difficult. The state and its partners, including EPA and USDA, must make technical assistance and outreach a top priority and provide resources to achieve results. Meeting agriculture goals requires additional, better, and innovative ways of providing information, technical knowledge, and follow-up to farmers. Staff on the ground is vital to ensuring that monitoring and enforcement have a meaningful impact on water quality. These staff must be knowledgeable about all aspects of the process, including local communities, sectors, challenges, and opportunities. The commenter states that strategies must advance use of innovative tools to make a difference, including online means of providing training, communicating requirements, and building and implementing strategies at the local and watershed levels.

The commenters suggests that leadership within Maryland's agriculture, natural resources, and environmental agencies, as well as leadership from USDA, meet to address the need for education, outreach, implementation assistance, and follow-up throughout the Bay watershed bring key people together to develop new ideas for providing adequate technical assistance. This would include the identification of priority areas; assessment of existing efforts and resources and identification of critical gaps; identification of the levels and kinds of staffing needs and strategies for filling them; assessment of funding needs; and development of a timeframe for implementation of activities and initiatives.

The commenter recommends that leadership supports a workgroup, which can move quickly, focused on advancing and implementing the technical assistance strategy. This workgroup should reach out to state and local collaborators to develop and refine the strategies as appropriate for state and local conditions and needs. This initiative must have ongoing attention and engagement by state and federal agency leaders to maintain momentum and receive sufficient funding and ensure actions become realities.

Response: The referenced suggestions and recommendations are under constant discussion with all of the partners. The State understands the commenter's concern.

Comment # 504.

Commenter: C87

The commenter believes that the urban sector has been unduly targeted for retrofits. The Maryland Association of Counties recently reported an estimate of \$21 billion just for Maryland retrofits. The urban retrofit costs, compared to other sectors, is extremely expensive versus the benefit expected. The Center for Watershed protection estimated that the cost to retrofit one impervious acre in 2007 was \$88,000, which is approximately \$102,487 in 2010. In contrast, pollutant removal costs for a

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WWTP is \$200/lb each year for nitrogen and \$3,000/lb each year for phosphorus compared to the removal cost for retrofits of \$6,000/lb each year for nitrogen and \$34,000/lb per year for phosphorus.

Response: The allocations were not based on cost, but on an equal percentage of the reducible load. In response to cost concerns, in the final submission additional flexibility was offered to achieve the nutrient reductions from practices that more efficiently reduce nitrogen and phosphorus than typical stormwater controls such as wet ponds. In addition, localities will be able to trade within their watersheds to reduce costs.

Comment # 505.

Commenter: C87

The commenter states that MDE needs to identify funding sources to accomplish the provisions in the WIP. The commenter supports an increase to the Bay Restoration Fee and the imposition of a stormwater utility fee for use in retrofits.

The commenter does not think BRF and SW fee measures will be adequate to cover the implementation costs. This is very challenging given the financial constraints of the local governments, the extent of new development, the downturn in real estate values, and the current levels of unemployment. With this framework for the economy for the next several years, new development will not be a primary source of revenue generation or future pollutant reductions through more rigorous regulations. The WIP will need the financial benefits of new development.

Response: Funding strategies are part of Phase II. There was additional material in the WIP on this issue in the final submission.

Comment # 506.

Commenters: C77, C89, C93

Urban areas, like Baltimore, lack funding to meet their current mandates. Without significant additional funding, it is virtually impossible they will be able to meet enhanced mandates. Baltimore City is attempting to legislate a local stormwater utility. The commenters suggest that there would be a state-wide stormwater utility, with funds allocated to the local jurisdictions, to ensure that a portion of the required funds are available on an on-going basis and that Maryland should commit to passing this legislation in its WIP.

Response: Most localities would likely prefer to structure and implement their own utilities. However, as a contingency, the final submission included mandated funding requirements.

Comment # 507.

Commenters: C89, C93

The commenter points out that the WIP highlights Maryland's Chesapeake Bay 2010 Trust Fund with pride, and while the fund had noble aspirations, it never reached its original goals. The amount of funding currently in the Fund is nowhere near what was allocated in the legislation. The commenter notes the fund was created in November 2007 and was proposed to be \$50 million a year, to be paid for with tax revenues on rental cars and motor fuel, however, funds were cut to \$8 million as the state's deficit grew.

Response: Although the Trust Fund began with less than ideal funding (9.6M in SFY09, 8M in SFY10), both the Governor and the Legislature recognize that the Trust Fund is an essential component in achieving nonpoint source goals both at the state and local level. The Legislature passed the Governor's budget of \$20M in SFY11, more than twice the amount of the 2

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previous years combined, allowing all local projects identified for funding in the first year to receive Trust Fund dollars. Pending Legislative approval, Maryland hopes to see this trend continue.

Comment # 508.

Commenters: C89, C93

The commenters point out that nonpoint source pollution control requires trained personnel in Soil Conservation Districts and in counties and that it takes more than a year to get a qualified, trained field work-force mobilized to design, review, approve and inspect agricultural BMPs. These personnel are not readily available, the NRCS has a hard time acquiring the resources to train them, and no other party is qualified to do so. The commenters anticipate a significant delay in deployment of personnel necessary to implement effective BMP programs. The recruitment, hiring and training of such personnel must be timed with the onset of BMP funding to ensure that BMP sign-up coincides with availability of knowledgeable staffing. The commenters states that the draft WIP is deficient in that it does not outline any strategies for acquiring these new staff, nor budget measures to fund new staff to the degree needed.

Response: The referenced information is a significant concern that all of the Bay Cabinet Secretaries are aware of. There are frequent discussions within the State and between the State and federal government about how to address this.

Comment # 509.

Commenter: C100

The commenter notes that the WIP does not commit to specific pollution control strategies, funding commitments, or deadlines for implementation and that without identifying funding sources (or a commitment to seek funding before the legislature) at the state and/or local level, pollution control options are set up for failure. The commenter provides an example of an example of a potential funding source, in that many Maryland watershed groups worked during the 2010 General Assembly session to advocate for a dedicated stormwater utility fund to pay for stormwater retrofit projects (SB 686/HB 999). The commenter agrees with commenter C44, in that “it would send a strong message to both state legislators and the EPA if the Administration were to make such a bill a priority in 2011.”

Response: There was additional detail on all of these issues in the final submission, including a contingency for a mandated utility.

Comment # 510.

Commenter: C111

While the commenter, the City of Baltimore, fully supports the goals of the TMDL, they have performed a feasibility study and anticipate the costs of the TMDL requirements on a local level to be \$533 million over the next 5 years. This fiscal year, due to decreases in local revenues and MVR funds, the City had \$0 for Surface Water Management Capital projects. Meaningful assistance from the federal government is necessary for the Baltimore to meet the goals of the TMDL.

The commenter owns and operates two major WWTPs, Back River WWTP and Patapsco WWTP. The City is upgrading both plants with ENR technology and anticipates these will cost more than \$500 million and will constrain plant space as new facilities will need to be added as a part of the upgrade. These upgrades coupled with new NPDES permit requirements take our plants to the limits of technology and leave little flexibility for unforeseen circumstances such as weather.

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The City recently received its fourth generation Phase 1 MS4 permit, which is aggressive and going to require the City to dedicate significant resources to meet these requirements. The commenter notes that the WIP provides options for actions the state may take if Maryland fails to meet the 60 percent achievement goals by 2017. These actions include requiring localities to treat up to 60–70 percent impervious area. Not only is this task difficult for an urban area like the Baltimore, due to the limited amount of space within the jurisdiction's limits, it does not provide jurisdictions with regulatory certainty. Escalating the treatment requirement from 20 percent to 60 percent and providing a 3-year timeframe for accomplishment is not feasible.

The commenter states that EPA would require states closer to the Bay, with greater impacts on the waters, to produce a greater level of effort and that Maryland decided to adopt a similar approach. If the Maryland moves forward with this approach, the City requests that a mechanism be enacted to temper the disparity between costs that some jurisdictions will incur over others. As an urban area, without considering the increased level of effort the City may face, it already costs more to implement BMPs in this setting. All of these costs are extremely burdensome to the 47 percent of our residents who live below the median household income of approximately \$42,000 for a household of four.

The commenter states that even with assistance from the BRF, upgrades of this magnitude require significant local investment. Upgrades required by TMDL need to at minimum be aligned with the reality of localities CIP process; the time it takes to secure investment, implement projects, and the long-term debt burden. The design bid practices and the length of time to construct some of these projects takes a minimum of 3 years, assuming funding is available. Without certainty concerning compliance requirements, it is impossible to plan for the associated fiscal requirements and implement projects in a pressured time period.

Response: The State is making every effort to increase federal funding. Issues regarding weather and the ENR process are really more of a permit issue than a WIP/Planning issue. Your permit should reflect the WIP, so if you are in compliance with your permit, you should be OK with the WIP. Maryland has constrained the difference between those close and those further from the Bay to increase efficiency, but not be controlling factor. It would be helpful to all if this current budget cycle begins to address the WIP in terms of internal capacity, staff needs, contractor needs, internal communication, and initial funding strategy.

Comment # 511.

Commenter: C58

The commenter points out that the WIP is nearly silent on funding associated with the non-agricultural activities identified to reduce nitrogen, phosphorus, and sediment pollution. Even partial implementation of any of these strategies will require nearly immediate funding to all levels of government to review and comment on required submittals, provide expert guidance to select and effectively plan to implement any type of best management practices, and perform field inspections and monitoring duties. The commenter is concerned that this failure to identify a dedicated funding plan or strategy for the myriad practices, programs, and actions described in the WIP will seriously jeopardize the achievement of nutrient and sediment reduction targets and timelines. These deficiencies place the success of ultimately realizing Chesapeake Bay and tributary water quality improvements at risk of catastrophic failure.

Response: The final WIP better addressed both costs and funding.

Comment # 512.

Commenter: C58

The commenter states that many of the existing programs cited, such as the CREP, MACS and USDA's Environmental Quality Incentives Program (EQIP), which are envisioned to provide ever-broadening support for the agricultural community as well as private land owners, will need to be strengthened. These programs, at their current funding formulas and levels, fail to offset the full implementation costs to the private landowner. When the administrative burdens of these programs are combined with the actual cost-share gaps, it often makes them unattractive to the property owner due to a poor return on invested time, effort and money. The commenter notes that if the use of these programs is to expand, the accompanying funding pool must increase substantially. If they are to be widely-adopted by landowners, the administrative requirements must be streamlined and/or a method to compensate for the implementation cost-gap must be developed; otherwise the loading targets intended to be addressed via these programs will not be met.

Response: The State is doing what can be done to increase all funding pools. In the face of a mandate, the administrative overhead becomes less of an issue, but Maryland will work on streamlining various processes.

Comment # 513.

Commenter: C76

The commenter supports a required stormwater fee to help fund these oversight and enforcement efforts.

Response: Stormwater fees have been added as a contingency.

Comment # 514.

Commenter: C72

The commenter is concerned that new regulations are voted on and mandated with no appropriate funding. Allegany County and the small municipalities have lost funding over the past two years and do not have additional funds to put toward new plans. The commenter asks for MDE to consider rural areas of Maryland before implementing new regulations that are going to be costly to budget strapped municipalities.

Response: Any new regulations would have a public review and comment period, which would be when Allegany (or any other) County would need to present its concerns. No new regulations directly related to the WIP are currently in preparation.

Comment # 515.

Commenters: C51, C59

The commenters have limited resources and taxing potential to cover significantly potential costs of implementing the WIP. They request that any additional implementation mandates from the State should be accompanied by adequate funds to offset costs. Costs for this program may be disproportionately burdensome on economically disadvantage communities, such as the counties and municipalities of Western Maryland, which suffer from a lack of development activity to support compliance.

Response: Some portion of local funding is likely, but it would be prudent to find offsets or other support for disadvantaged areas.

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Comment # 516.

Commenter: C83

The commenter states that the 2 year milestones for agricultural may be reasonable if adequate technical and monetary resources are provided to all 24 Soil Conservation Districts throughout the state. Current assessments show that an increase of 98 new technical positions in Soil Conservation Districts is needed to meet the planned workload. The commenter states that if qualified personnel are not funded and put in place quickly, the milestones will never be met.

Response: The State is working to address identified gaps in current capacity, including the need for expanding funding and technical staff to support implementation in the agricultural sector.

Comment # 517.

Commenter: C62

The commenter states that the goals for the agricultural sector are significant, but achievable, only if adequate technical and financial assistance is provided.

Response: See response to comment 516 above.

Comment # 518.

Commenter: C62

The commenter points out shoreline erosion as a significant contributor to Bay pollution. Shoreline stabilization practices are cost prohibitive for the vast majority of landowners and financial assistance is necessary to achieve the needed stabilization.

Response: In many areas shoreline stabilization is needed regardless of the WIP.

Comment # 519.

Commenters: C55, C81

The commenters state that the agricultural components of the draft WIP can only be achieved with significant increases in resources to local Soil Conservation Districts and that not only staff funding must be provided, but funding to cover increasing overhead costs. SCD's pay the rent and providing only short term grant funding, for personnel only, is not going to work at many locations. The commenters point out that in a recent (January 2010) staffing evaluation of needed resources at the SCD's, identified a minimum need of 33 staff are needed to reach the 110 positions statewide identified in State law and an additional 65 positions were identified to meet current workload expectations in the Districts.

Response: See response to comment 516 above.

Comment # 520.

Commenters: C55, C81

The commenters note that several financial incentives mentioned for agriculture do not exist or exist at funding levels far below what is needed as stated in the document, particularly cost sharing for nutrient management planning and manure transport. For example, it has been some time since farmers have received financial assistance the Maryland Nutrient Management program providing financial and technical assistance to farmers for plan writing. The commenters state that inclusion of this program in the WIP suggests that existing funding is currently available. Similarly, the WIP states that "manure transportation program provides funding for manure from animal operations"

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however, while funding has been available in the past, funding at present is only available to litter being used for alternative uses; again, its inclusion suggests that funding is currently available.

Response: The state and federal partners are working on gaining additional funding, but it is likely that a significant local share will also be needed.

Comment # 521.

Commenter: C59

The commenter (City of Cumberland) states that requirements in the proposed WIP for TMDL load reduction offsets from new development will be especially burdensome on them and they rely on redevelopment and adaptive reuse for the vast majority of its development activity. Redevelopment activity is an inherently more costly development investment than Greenfield development, due to many factors, including demolition and site restoration, special construction equipment and practices necessary to work in constrained or confined urban redevelopment sites, and higher land acquisition and property aggregation costs. The commenter is concerned that the added burden of required stormwater mitigation offsets for urban infill and redevelopment projects will create additional cost incentives for Greenfield development outside the City, which is inherently contradictory to Smart Growth practices and principles.

Response: The WIP accounting for growth strategy does not propose offset requirements for redevelopment. Also, see response to comment 89.

Comment # 522.

Commenter: C59

The commenter asked what consideration has been given in the Phase I WIP to the cost burden of implementation on economically disadvantaged communities. If the implementation costs must be borne individually by each community, the resulting burden may be disproportionately high on communities with smaller or constrained tax bases, especially those with little overall development activity. Many of the implementation strategies depend on new development to solve past problems. Slower growth communities may find themselves in a situation of noncompliance if the local tax base cannot absorb the additional cost. The commenter notes that this situation will create a financial dilemma for many small and economically disadvantaged communities and may constitute an environmental justice issue for MDE, especially in those communities that are far removed from the Chesapeake Bay.

Response: Costs are going to be discussed more fully in Phase II.

Comment # 523.

Commenter: C57

The commenter states that while funding sources are discussed, there is limited or no information on the cost to implement each proposed strategy. This makes it difficult to compare the various strategies from a cost benefit prospective.

Response: Additional information on cost was added in the final submission.

Comment # 524.

Commenter: C75

The commenter is concerned by the lack of inclusion of economic feasibility within the Plan. Several changes that are considered will require the creation of new regulations. Part of that process is to

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review whether or not a particular regulation is economically viable. If economics are not considered as part of this Plan, then some reductions being included may not be realized through regulation. This is of particular concern given the current economic environment.

Response: Final plans with sufficient local specificity haven't been developed yet, so economic feasibility could not be determined. Consideration of factors like economic feasibility will be more of an issue in Phase II.

Comment # 525.

Commenter: C45

The commenter notes that the Maryland farmers have already adopted many BMPs, including many that have actually improved the economic conditions on the farm. The more extreme practices that are left do not benefit the economics of the operation and are instead quite costly. Farmers cannot meet the allocations without significant cost-share from the state and federal government. The commenter requests that the state calculate the total cost of installing all of the BMPs scheduled in the WIP between now and 2017 or 2025. A permanent funding mechanism should be adopted by the General Assembly to ensure that full cost-share assistance will be available throughout the duration of the WIP.

Response: There is already significant cost share for many BMPs, and some remaining, at least on some farms, that also offer economic benefit. The State need to maximize and use these cost effective BMPs on all farms, to minimize less cost effective approaches on some farms.

Comment # 526.

Commenter: C74

The commenter requests that MDE must increase its staff and efforts to provide increased training, technical assistance, monitoring, inspection, and enforcement of both new storm water management and sediment and erosion control regulations. The commenter suggests this be achieved by increasing state permit application fees for large construction sites. MDA must also increase its staff, funding, and ability to provide technical assistance, monitoring, inspection, and enforcement of nutrient management plans.

Response: Increased fees could be a future option where fees have not increased in a long time and don't cover programmatic costs.

Comment # 527.

Commenter: C74

The commenter suggests that programs to reduce nutrients and sediment from the agricultural sector should fully fund permanent measures that require one time funding, such as concrete pads, manure pile covers, and vegetative buffers before providing funds annually for winter cover crops.

Response: The suggested prioritization is happening.

Comment # 528.

Commenter: C78

The commenter states that Maryland's draft WIP correctly emphasizes the most cost-effective measures, such as accelerating the deployment of enhanced nutrient reduction technologies at major wastewater treatment plants and expanding the use of agricultural cover crops. The commenter

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supports those measures as well as proposed investments in stormwater management, buffer restoration, and septic system upgrades in the Critical Area.

The commenter states that implementing the WIP will require substantial financial resources. While state executive branch agencies cannot make monetary commitments on behalf of the state, they can help build a consensus for increasing the state's investment by providing estimates of the costs and benefits of what is being proposed, at least for the near term. As taxpayers, the commenter urges our state and local governments to secure the necessary financing, starting in 2012. Specifically, we support setting firm funding targets for state and local initiatives (for example, for Bay Restoration Fund, the Chesapeake and Atlantic Coastal Bays Trust Fund, and local restoration funds); raising fees if necessary to actually meet those targets; and treating those proceeds as dedicated sources of funding that cannot be diverted to other governmental purposes.

Response: Cost effectiveness will be more of an issue in Phase II, and hopefully trading opportunities will increase the over all cost effectiveness of the strategies.

Comment # 529.

Commenter: C53

The commenter points out that deadlines and timing to augment existing funding mechanisms are either not discussed or are unrealistically ambitious. This risks setting up local governments and utilities for failure if needed funding cannot be found. Right now it looks like the State is expecting most of the expense for TMDL implementation to be borne by local government without any additional funding. In addition, BMP data on agricultural areas are not nearly as complete or as accessible as for urban areas. As a result, there seems to be uncaptured data pertaining to existing agricultural BMPs and opportunities for future agricultural BMPs that may need to be acquired before TMDL implementation plans can be developed for the LA portion of the TMDLs. If so, this might incur additional costs. State and Federal governments will need to share significantly in the TMDL implementation-related expense or it is difficult to see how the deadlines will be met, especially at a time when local government budgets and staff are being reduced.

Response: Setting targets and goals also encourages action in the face of difficult decisions. For the past 30 years there have been few hard deadlines, consequently there was insufficient improvement. The State and federal government are looking to supplement existing funding as much as possible.

Comment # 530.

Commenter: C109

The commenter commends the Administration on producing the only WIP that received acceptance from EPA. The commenter is proud of Maryland's ongoing role as the leader in the Chesapeake Bay cleanup efforts throughout the past quarter of a century. However, the commenter expresses concern that even though Maryland farmers have consistently done what has been asked, they now have to do even more, even though they are ahead of their peers in the other states. The commenter cautions the state not to advance policies and program that will put Maryland farmers at an economic disadvantage to their competition. The commenter states that faced with higher land and labor costs, Maryland farmers are already at an economic disadvantage to farmers in other states.

Response: The issue of maintaining economic viability and competitive edge in Maryland's agricultural sector has been a concern, and MDA has kept the Bay Cabinet apprised of various related concerns that need to be addressed during the ongoing WIP process.

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Comment # 531.

Commenter: C86

The commenter states that most of the reduction for these nutrients by 2012 is expected to be met by increasing the efficiency of nutrient removal in our waste water treatments plants. Anne Arundel County has already done an excellent job in bringing its WWTPs up to the ENR standards in most of its plants but they need assistance in replacement of old and corroding pipelines.

Response: Many local jurisdictions have the same concerns. Amortizing the replacement and repair of our built infrastructure has unfortunately not received the attention it deserves.

Comment # 532.

Commenter: C82

The commenter (Frederick County) states that stormwater retrofits are prohibitively expensive per acre and increased requirements would pose a significant hardship to the county.

Response: The State expects to be able to reduce costs during Phase II discussions.

Comment # 533.

Commenter: C96

The commenter states that the Chesapeake Bay Commission (CBC) projected that meeting the less rigorous 2000 Chesapeake Bay Agreement goals would cost governments \$18.7 billion across the three Bay Commission states (Maryland, Virginia, and Pennsylvania). It now appears the Maryland retrofit obligation will alone cost perhaps \$26.4 billion. But much of Bay cleanup will be achieved by pollution control regulations that impart enforceable obligations on private interests. The commenter (NAIOP) encourages the application of strategic spending and nutrient trading in order to reduce Bay pollution in the most cost-effective manner. The five most cost-effective ways to reduce nitrogen pollution are agricultural practices that range in cost from \$1.57 to \$4.41 per pound of nitrogen removed. In contrast, the six most commonly applied urban nitrogen reduction practices carry a direct cost of \$280 to \$2,698 per pound of nitrogen removed. The areas with the highest delivered nitrogen to the bay and the areas of highest growth are not the same. Neither the EPA nor the Maryland nutrient trading framework is complete and neither would permit trading between the highest growth areas with the highest cost of compliance and the areas with the highest delivered nitrogen to the bay where the costs per pound of pollution are generally much lower.

Response: Maryland is anticipating that trading and flexible implementation will lower costs from current estimates.

Comment # 534.

Commenter: C98

The commenter states that an important consideration is how to finance important segments of the WIP plan by establishing who should pay for offsets for new growth and their resulting discharges. This requires a discussion of how local governments will pay. For example, if new and present discharges are really perpetual discharges (new house and homes creating pollution for years), the commenter asks how will a perpetual offset created or how can a payment or program be set up by anyone, government, developer or otherwise to support this. In some cases the developer should pay for it, and the best way of achieving this would be by enforcing, restoring and eventually expanding the Stormwater Management Act of 2007 and its regulations. However, MDE should include whatever is needed, including possibly new laws and regulations.

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Response: See response to comment 89.

Comment # 535.

Commenter: C98

The commenter states that it is unreasonable to believe that the federal government is going to be able to shoulder the burden of bailing out Maryland with a complete sewerage of the state. With Maryland's partnership, however, federal authorities can play a leadership role in directing new funding mechanisms (and old) to push investment into the types of systems and approaches described above. Below are some of the current (and possible) funding streams that should be used to fill the gap and move the paradigm:

- CWSRF and especially the Green Reserve
- DWSRF (drinking water source protection)
- RUS (Rural Utility Service of the USDA)
- Maximum leverage of public and private bond markets
- Stormwater fees
- Sewage fees
- Development offsets
- WENRSCOs (Water, Energy, Natural Resource Savings Companies) – based on highly successful ESCOs
- Green Building
- Federal Agency spending on Green Buildings, transportation, energy etc....

Response: See response to comment 115.

Comment # 536.

Commenter: C98

The commenter states that incentives and rebates should be given to homes, commercial buildings, and agricultural operations that conserve, harvest, and reuse water and thereby reduce on nutrients, solid waste, and energy. For example, New York City gives a 25 percent discount of the water and sewer bills to buildings like the Solaire in Battery Park City.

Response: The referenced approach can be part of Phase II and implemented locally.

Comment # 537.

Commenter: C97

The commenter states that the WIP must aggressively address and fund infrastructure upgrades to prevent and treat CSOs.

Response: CSOs are currently being addressed aside from the WIP, although nutrient and sediment reductions resulting from separating storm and sanitary flows after 2009 can be counted as additional progress.

Comment # 538.

Commenter: C95

The commenter states that on the basis of the modeling approach to develop countywide strategy, the projects in the commenter's current CIP cycle will not achieve the pollutant load reductions for the existing TMDL. The commenter states that meeting the State's timeline to implement 70 percent of all projects for the TMDL by the year 2017 will require funding greater than the existing CIP budget of \$86 million, although the exact level of needed funding is unknown until WLAs are provided.

Response: The difference between current programs and restoration needs is the "gap" in resources that must be addressed. It is a large amount, but will depend on the efficiency of the strategies developed during Phase II.

Comment # 539.

Commenter: C94

The commenter states that the lack of capacity to implement mitigation actions presents significant obstacles to achieving the TMDLs and notes that over the last several years, local and state staff and financial resources have been pared down to minimum levels.

The commenter cites one example of the projects that local jurisdictions are expected to partner with the state to achieve TMDLs.

Compliance Capacity: A key goal of the Bay restoration strategy will be to install stormwater controls (retrofits) and water quality improvement projects on land that was developed prior to the implementation of Maryland's Stormwater Management Law in 1985, and enhancing water quality for early BMPs implemented between 1985 and 2002.

The commenter states that it is not clear that the WIP takes note that implementation of such items will require numerous projects on numerous sites resulting in demand for major new project administration resources.

The commenter's experience with implementing the Critical Area and Forest Conservation fee-in-lieu work indicates that finding sites and project implementation/ administration requires significant staff time and effort. The commenter states spare capacity to undertake such work is severely limited to non-existent at the soil conservation district and local jurisdiction level. Therefore, the commenter asks who will complete project development. The commenter states the WIP strategy is nearly silent on this issue. The commenter states requiring local jurisdictions to "pull a rabbit out of their hat" is not an implementation strategy.

Response: Understanding the capacity needs at the local, state and conservation district levels is one of the first things to do during Phase II. It isn't even necessary to know exactly what they will be because it will be more than currently available. Increasing those resources is a high priority and prerequisite to completing both the Phase II WIP and the restoration effort.

Comment # 540.

Commenter: C94

The commenter states that overall the WIP provides for an ambitious set of actions and that without additional resources at the state and local level, implementation will be difficult.

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The commenter states counties will need funding and technical assistance to create and undertake TMDL implementation and TMDL response program and that the complexity of TMDL issues are beyond many local jurisdiction's capabilities.

The commenter notes that MDE staff levels are inadequate to meet its current mission. The commenter sites the current new stormwater management regulations as an example, for which the training and technical assistance are being farmed out to non-government organizations without state funding. The commenter states if the TMDL process is to succeed this staff and resource shortage must be addressed.

Response: The State is working on that issue.

Comment # 541.

Commenter: C88

The commenter states that in time of economic uncertainty, local governments are faced with major budget deficits. Current staff are having to do more with less. The commenter states it is not proper to impose implementation of this WIP at this time since resources may not prove adequate to effectively analyze the effects of new provisions or claim credit for current offsets, much less implement more. The commenter states that reasonable assurance absolutely must take this into account.

Response: Both the state and federal governments are in similar situations. However, communities were waiting for an improved Bay when the economic situation was better and action was not taken. Now there is no alternative.

Comment # 542.

Commenter: C88

The commenter states all EPA funds that are available, or will become available, should be funneled directly to local governments, primarily counties. The commenter believes the majority of implementation costs under MDE's proposed scenario will be borne by county governments. The commenter states that county governments—especially rural jurisdictions—do not possess the financial or the personnel resources to support the cost of WIP implementation. Further many counties do not have the capability or—in some instances—the legal authority to raise the necessary funds.

Response: The majority of implementation costs will not come from EPA, they may provide some costs to help with staff or with specific projects. Localities will need to develop funding mechanisms to support this effort.

Comment # 543.

Commenter: C88

The commenter states the overall WIP fails to address existing inequities among jurisdictions in Maryland and believes the undue additional stress that will be placed upon rural jurisdictions is unfair and may generate environmental justice issues.

Response: It is not clear what inequities are being referred to.

Comment # 544.

Commenter: C101

The commenter notes that the EPA Draft TMDL and the Maryland Draft WIP both state that equitable solutions must be reached on the basis of stakeholder input. The commenter notes that the

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Bay Restoration Fund receives its money via a \$30 per wastewater system user or septic system owner. The commenter states that all funds (net of administrative expenses) collected from wastewater system users are applied to the upgrade of WWTPs, but that septic system owners only receive 60 percent of the benefit if their contribution as the remaining 40 percent is diverted to subsidies for agriculture. The commenter believes that 100 percent of the tax imposed on homeowners should be used to improve all septic systems within the Critical Area prior to diverting any such funds for the benefit of private agricultural business interests.

Response: The distribution of the fund is intended to achieve the best result with the limited funding.

Comment # 545.

Commenter: C104

The commenter suggests that MDE ensure that there are adequate fees for the BRF to meet necessary upgrades to WWTPs and sufficient funding for the Maryland Agricultural Cost Share program and the Soil and Conservation Districts to implement the strategies and hire the staff called for in the WIP.

Response: Future plans are being discussed.

Tracking and Accountability

Comment # 546.

Commenter: C18

The commenter agrees with and supports a program to conduct farm assessments and inventory of voluntary conservation practices that have been installed by farmers and landowners, since 2005 that are not currently part of the MDA Conservation Tracker reported inventory of conservation practices. The commenter notes that the efforts of farmers to improve water quality at their own expense must be credited in the Maryland Progress Reports to USEPA.

Response: Noted and agreed.

Comment # 547.

Commenter: C26

The commenter states that additional tracking and reporting requirements, which are currently not part of existing permit requirements, would be burdensome for local jurisdictions. It is assumed that MDE would be the lead agency assembling and reporting the data to EPA. This should be clarified within the WIP.

Response: Development of these systems will be essential if localities expect to receive credit for what they have accomplished. Since most of this will occur through county programs without state knowledge, it is clear that only the localities can develop these systems.

Comment # 548.

Commenter: C26

The commenter states that the accountability and tracking of the accomplishments is essential, especially for nonpoint source sectors. Various agencies have established tracking databases, and the commenter asks how credit will be verified and provided for within the Bay Model for voluntary actions that do not fall under a government program. As an example, the commenter suggests additional tree planting along a forest edge or grass filter strip along a crop field.

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Response: Verification procedures will be developed as the tracking and accounting systems are developed during Phase II.

Comment # 549.

Commenter: C30

The commenter suggests the state add a program to adequately monitor non-point source discharges. Currently, the state does not do this and it should.

Response: Rates of nutrient discharge are measured directly in a few areas and then extrapolated by model more comprehensively. It is too resource intensive to measure directly across a watershed.

Comment # 550.

Commenter: C32

The commenter notes that under section 1-301(d) of the Maryland Environment Code, MDE is required to publish a remarkable amount of information in its annual compliance and enforcement report. Earlier this year the Center for Progressive Reform published a report on MDE's NPDES program and recommended that the agency make public enforcement and compliance actions by local governments with delegated authority. Maryland's draft WIP does not provide any internal assessment of the effectiveness of its program, nor does it provide sufficient information to judge the strength of its enforcement program. MDE provides a helpful table, not included in its annual report that breaks down inspection and enforcement data at the county, municipal, and state levels for the sediment and erosion control program.

Earlier this year, Center for Progressive Reform found that MDE is significantly underfunded and its enforcement program is not designed to ensure compliance with NPDES permits and does not take advantage of citizen suits as additional enforcement assistance. The commenter suggests that Maryland's final WIP should explain how it intends to improve its enforcement program and address these issues as they relate to the Bay.

Response: The WIP is for strategies going forward, not for assessment of its enforcement program, which is information that is available in other documents.

Comment # 551.

Commenter: C32

The commenter notes that the draft WIP lists the different verification schedules for federal and state funds. For example, inspectors conduct random spot checks of 10 percent of BMPs funded by the MACS program. The final WIP should include information regarding participation and effectiveness of these nonpoint source pollutant control activities. In addition, the draft WIP does not cite dedicated funding for monitoring and verification. This information should be included in the final Phase I WIP.

Response: The information was retained and in some cases amplified.

Comment # 552.

Commenter: C32

The commenter states that overall the draft WIP fails to discuss what contingencies Maryland will implement for slow or incomplete implementation. EPA's Expectations letter specified that the WIPs should contain specific plans to implement contingencies in the event of delayed adoption of new or revised legislation or regulations, inadequate compliance or participation rates, or adverse changes in land use or development rates. The commenters requests that Maryland ensures that its contingencies

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are clearly identified and are coordinated with specific failures, have timely implementation deadlines, are effective, and have legal authority to require implementation.

Response: These issues were expanded on in the final submission.

Comment # 553.

Commenter: C32

The commenter notes that the draft WIP fails to disclose gaps related to funding and personnel needed to establish and maintain an effective CAFO NPDES permitting program. CAFO permits issued after the Bay TMDL is finalized must be consistent with the wasteload allocations in the TMDL.

Response: Overall State gaps were addressed in Element 2. The wasteload allocations and CAFO requirements will be consistent.

Comment # 554.

Commenter: C33

The commenter requests that prior to final submittal to EPA, the State should provide local governments with text regarding contingencies for slow and incomplete implementation, it is critical that local jurisdictions be notified as to the State's response to this item. The direction that the EPA and the State will take on this item is crucial information to decision-making.

Response: EPA has made clear in a general sense by letter what types of actions it might take, and more specifically in developing backstops for Virginia, Pennsylvania and New York. These backstops included objecting for various permits and requiring more stringent controls that may be minimally cost effective. By forcing unpalatable options, EPA received sufficiently improved plans to avoid the backstops. MDE would anticipate that EPA will employ a similar approach in the future, to be applied in the absence of suitable progress.

Comment # 555.

Commenter: C33

The commenter notes that the flow chart on page 6-19 does not include MDP and where the Growth Simulation Model fits.

Response: The flow chart describes the database for tracking and reporting implementation of pollution reduction measures to CBP. Forecasts (through the MDP Growth Simulation Model) and actual amounts of new development acres and new septic tanks are proposed to be tracked separately at the State and local level.

Comment # 556.

Commenter: C33

The commenter agrees with a common reporting system to report implementation measures, however he requests that the local jurisdictions be involved in developing this reporting system so it can be incorporate data types and levels available at the local level. Access by locals to input the data will be more effective and efficient, but the data requested must be data that is actually available. Guidance on the types of data should be provided to jurisdictions in a timely manner so it can be incorporated in a reasonable timeframe. The commenter notes that collecting data through annual reporting on new development from jurisdictions will help keep data current and reflect local conditions.

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Response: Agreed. It is essential that localities be involved in developing these systems and the State is anticipating that this will happen during Phase II.

Comment # 557.

Commenter: C33

The commenter notes that the text on page 6-17 indicates that local zoning is incorporated to the MDP Growth Simulation Model. The commenter agrees that longer-term change adjustment is needed and suggests the WIP include options to refine the growth model to more closely reflect on-the-ground conditions which will result in more land use categories, impervious cover rates, loading rates, etc. to better capture loading changes resulting for various land uses and BMPs. These adjustments would be able to credit local land use and programs to a great extent if these adjustments are also coordinated with local jurisdictions.

The commenter points out that the growth model incorporates increases in septic tanks and that this information must come from the local health departments. The commenter request this data was be made available to local jurisdictions because local jurisdictions and the State need to coordinate data for the monitoring progress.

Response: Section 6.3.2 of the Phase I WIP envisions longer-term changes to the CBP's watershed model and CBP's growth model to incorporate the benefits of State and local smart growth programs. In addition, Section 6.3.2 notes that septic tank forecasts used in Maryland's 2-year milestones are informed by local health department data.

Comment # 558.

Commenter: C33

The commenter states that it is not clear from the text on page 3-8 which government entity will be responsible for requiring, implementing, tracking, and monitoring the bulleted items and requests further explanation.

Response: See response to comment 89.

Comment # 559.

Commenter: C33

The commenter notes that MDProperty View is used for tracking new development. However, it has been the commenter's experience that the database has a high degree of inaccuracy. The commenter states that local jurisdictions should have the option to provide their own data to better reflect actual conditions.

Response: MDPropertyView is an excellent tool for tracking new development. Section 6.3.2 already envisions local annual reports as another tool for tracking new development.

Comment # 560.

Commenter: C33

The commenter points out that the WIP indicates that data is reported through State agencies and ultimately into BayStat. BayStat is then intended to provide up-to-date data on the progress toward milestones. The commenter requests that local jurisdictions be given access to view this data and addition descriptions be provided as to how local jurisdictions can access, use, and interpret the data to identify progress on any given segment or sector.

Response: BayStat data is all online and access is already provided.

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Comment # 561.

Commenter: C33

The commenter is concerned that funding is provided, that it will be subjected to routine expropriation by the Legislature in difficult budget times such as was done with Highway User Revenues. The commenter is concerned that the regulations will create tangible mandates with only the mere promise of funding.

Response: No promises as to funding are being made. Developing local funding strategies will be part of Phase II.

Comment # 562.

Commenter: C36

The commenter states that the Kent Soil and Water Conservation District acts as a conduit to much of the vital programming which implements nutrient and sediment reduction practices, including many voluntary practices, throughout all county agricultural land. Many of the practices implemented are voluntary. The commenter states it is vital that the Kent Soil and Water Conservation District is able to maintain its role as advisor and supporter in the implementation of voluntary agricultural BMPs rather than participating in enforcement or regulatory actions.

Response: The state recognizes that the effectiveness of Soil Conservation Districts (SCD) to conduct outreach and educate farmers and landowners is dependent upon a voluntary approach. SCD provide the primary delivery system for state agriculture water quality programs. The state has the regulatory mechanisms available should an enforcement action be needed.

Comment # 563.

Commenter: C50

The commenter requests Maryland implement ongoing tracking, evaluation, and adaptive management to ensure the state is meeting two-year milestones and taking advantage of lessons learned and new opportunities for improving the WIP and its specific components. The commenters specifically requests:

- Develop a strong program not only for tracking but evaluating the effectiveness of practice implementation and impact. This includes tracking and evaluating the impact of practices implemented outside cost-share programs;
- Identify existing and further develop new cost-effective metrics for real-time evaluation of practice effectiveness; and
- Dedicate a funding stream and staffing resources for verification of both voluntary and mandatory practice implementation, including enforcement of mandatory practices and compliance and fulfillment of practices included in cost share contracts to ensure those dollars are being used for real impact.

Response: The commenter's requests are goals of the plan.

Comment # 564.

Commenter: C87

The commenter states that that WIP should ensure proper mechanisms are in place to promote and facilitate the use of agricultural BMPs and the implementation of a viable nonpoint and a point to nonpoint source trading and offset programs. Opportunities for trading and offset should be widely

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available for new development loads as well as to MS4 jurisdictions to facilitate compliance with the permit reduction requirements. Maryland's trading and offset programs are not ready to supply the offset demand being created in 2011 due to the discharge restrictions contained in EPA's TMDL.

Response: Maryland's trading program is pretty much ready to allow trades to happen. Its role is not to supply, but to enable trades.

Comment # 565.

Commenter: C100

The commenter states that there is currently insufficient transparency relating to agricultural activities and that recent studies confirm that agricultural operations are not adequately reducing nutrient runoff. Greater accountability and verification of performance of agricultural conservation practices is essential and must be required in the WIP. The commenter suggests that Nutrient Management Plans should be made public, especially considering that many farmers are paid incentives through federal and state subsidies to install conservation practices on their farms (cover crops, buffers, etc.).

Response: Plans for CAFOs, i.e., the largest farms, are available.

Comment # 566.

Commenters: C89, C93

The commenters express concern that the draft WIP does not provide adequate procedures to evaluate whether Maryland ultimately meets its nutrient and sediment goals. The commenters cite the example that MDA claims that the agricultural sector has made much progress towards achieving nutrient reduction goals, however current data from the Choptank River shows increasing loads over time. The commenters suggest that discrete, performance-based targets for reductions from all nonpoint sources be required in the WIP to improve water quality. The WIP allow for independent third-party entities to conduct assessments of conservation practices and reduction targets.

Response: Ultimately, meeting the goal means that the water quality standards are met. This will be based on actual water monitoring not reports of implementation.

Comment # 567.

Commenters: C89, C93

The commenters note that the Chesapeake Bay Regulatory and Accounting Program [CBRAP] grant program provides tracking and reporting grants to local urban stormwater systems, state that is a very positive program, and commend Maryland for its inclusion in the WIP.

Response: Thank you.

Comment # 568.

Commenters: C77, C89, C93

The commenters notes that the draft WIP fails to discuss what contingencies Maryland will implement for slow or incomplete implementation and request that the final WIP have timely implementation deadlines, and contain specific plans to implement clearly identified contingencies in the event of delayed adoption of new or revised legislation or regulations, inadequate compliance or participation rates, or adverse changes in land use or development rates.

Response: The final WIP provided more detail on contingencies and timelines.

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Comment # 569.

Commenters: C89, C93

The commenters state that it is essential that the WIP include detailed and strict contingencies for any source that fails to meet the TMDL limits and two-year milestones. They express concern that in agricultural watersheds reduction goals will not be met with the suite of practices proposed in the draft WIP. The commenters state CAFOs and the production of corn and soybeans account for 80 percent of the nutrient load to the Choptank River watershed and Maryland's proposed voluntary measures will not meet reduction goals. Given this and similar deficiencies, it is particularly important that the contingencies for rural watersheds be spelled out in detail.

Response: The final WIP provided more detail on contingencies and timelines.

Comment # 570.

Commenters: C89, C93

The commenters state that greater accountability and verification of performance of agricultural conservation practices is essential and they request that this accountability be required in the WIP. There is currently almost no transparency when it comes to agricultural activities in Maryland, although recent studies confirm that agricultural operations are not doing nearly enough to curb nutrient runoff. Many farmers are paid incentives through federal and state subsidies to install conservation practices on their farms. Since farmers receive public funds to implement these practices, and since local conservation districts have all the information about these grants the commenters feel that the details (who, where, etc.) should be available to the public along with monitoring results. Furthermore, the commenters request that the Maryland Water Quality Improvement Act should be amended so that Nutrient Management Plans, applicable to people who apply nutrients, poultry growers and companies, and Maryland-certified nutrient management consultants, as well as farmers, are made public—these are CWA documents and must be made public. The commenters state that in other Bay states similar documentation is public.

Response: EPA will be reviewing our progress annually and with respect to milestones. They will require verification or won't credit the implementation. MDA provides an annual enforcement report. Amending the Water Quality Improvement Act (WQIA) is not directly a WIP issue, but will need to be taken up with the General Assembly. Nutrient management plans for CAFOs are publicly available.

Comment # 571.

Commenter: C74

The commenter suggests that Maryland should track and take credit for redevelopment projects that replace development with no or old storm water management controls with new storm water management practices.

Response: Agreed.

Comment # 572.

Commenter: C92

The commenter suggests the WIP include a more detailed assessment of the resources needed for tracking and reporting, and a discussion on options to address this gap in local resources.

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Response: The suggestions will be developed further during Phase II in conjunction with the localities.

Comment # 573.

Commenter: C94

The commenter suggests that local monitoring data be allowed to augment modeling results to assess a jurisdiction's progress.

Response: The commenter's suggestion is a goal of the plan.

Comment # 574.

Commenter: C56

The commenter states that Maryland does not adequately monitor nonpoint source discharges. As EPA stated in its review of the Phase I WIP, Maryland needs a "greater commitment to tracking and verification to assure full implementation of nutrient and sediment controls." The Plan indicates that the State will continue to rely on decentralized data collection and monitoring from various state agencies as well as local governments. While the draft WIP indicates that Maryland will pursue various monitoring programs, no indication is given as to how these programs will function. The commenter brings up 3 questions: What will be the extent of the monitoring? Will the monitoring serve primarily as the basis for modeling potential outcomes instead of tracking actual performance? Will all potentially impaired streams and rivers in all the segments in Maryland be directly monitored?

The commenter suggests that if these questions are not addressed, Maryland will be unable to provide accurate information regarding the efficacy of proposed interventions, it will be unable to accurately allocate credits for trading, and it will not be able to assure localized improvements in any of the segments within the state. The commenter states that even if the State increases the monitoring of nonpoint source pollution under the Plan, it is generally impossible to trace pollution back to nonpoint sources and establishing tradable credits linked to real reduction in pollution will be impractical, if not impossible.

Response: Crediting reductions is based on accepted efficiencies for various practices and assessed by the Watershed Model, rather than monitored directly. Overall assessment of progress is dependent on both implementation and water quality monitoring.

Comment # 575.

Commenter: C56

The commenter suggests that Maryland cannot adequately monitor the proposed offsets, interventions, and actions listed in the Phase I WIP. While the WIP claims that Maryland is currently attempting to construct a centralized system for collecting the disparate local and state data, the Maryland Chesapeake Bay Implementation Tracking (MCBIT) data-tracking center, the planning remains in the early stages and contains no indication of how this new integrated system would be funded nor what contingencies the State has in place should the proposal not work. While the plan claims that MCBIT "also will be capable of tracking both offset generation and consumption," it gives no indication of how this would be possible, from where the information would be gathered, or how it would be made available in a form that would adequately meet the needs of a Bay-wide trading regime. The commenter states that there is no adequate plan in place for monitoring and tracking real pollution loads across all sectors in Maryland.

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Response: See response to comment 89.

Comment # 576.

Commenter: C78

The commenter states that EPA and the State must be able to accurately track and verify implementation of the many nutrient reduction measures outlined in the WIP. The two-year milestones and the interim 2017 plan should include clear benchmarks, such as a list the individual wastewater treatment plants slated for enhanced nutrient removal, the planning and implementation dates, the pre- and post-implementation effluent flows, and the nutrient concentrations and loadings. Similar data should be provided by geographic area (for example, by county or model segment) for agricultural and other nutrient reduction programs. Good intentions simply are not enough anymore. The commenter states that EPA and the citizens of Maryland need assurances that the state has the capability to effectively measure progress toward our common goals.

The commenter states that the only credible metrics for success will be tangible improvements in the quality of the water and aquatic and terrestrial habitats of the Chesapeake Bay. To ensure progress, the state must test the real-world performance of new technologies and verify that strategies are actually being deployed and performing as predicted.

Response: A detailed plan for retrofits for WWTPs is already on BayStat. Other plans will be detailed with milestones to be completed in 2012 and 2013. In the end, water quality monitoring will be the determinant of success, implementation monitoring will be used to track likely progress.

Comment # 577.

Commenter: C98

The commenter states that to make the TMDL successful Maryland WIP and other WIPs need to be enforced, not just be enforceable. To accomplish this the Maryland WIP should have clear monitoring and enforcement plans and in addition lay out a timeline during which MDE would come up with an enforcement plan—not the plan itself. The commenter suggests that to do this both MDE and MDA must be provided with adequate resources to ensure they're capable of carrying out their statutory missions. In addition, there needs to be clear consequences for failure, so that local elected governments have good reason to prioritize pollution reduction over granting a particular waiver to a developer. Consequences should be specific in relation to the sector at fault.

Response: Through its clear intent to implement backstops for states with inadequate WIPs, EPA has clearly telegraphed its intent to enforce plans.

Comment # 578.

Commenter: C82

According to the WIP, "All stormwater retrofits and urban water quality improvement projects are being reported to Maryland BayStat. The data appear on spreadsheets that specify permit requirements, compliance status, nitrogen reduction benefits, and operating and capital expenditures toward meeting the 2-year milestones. BayStat reviews retrofit implementation and pollutant loads and considers proposed contingency actions. This information has been provided via electronic data tables or hard copies annually to MDE Stormwater program coordinators."

The commenter (Frederick County) is not aware of this and to its knowledge, this is not the case. Frederick County is not required to report on nitrogen reductions so it is unclear how BayStat would be getting this information.

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Response: The referenced information should be in the annual stormwater report. MDE also does field work to verify individual BMPs.

Comment # 579.

Commenter: C82

According to the WIP, “MDE’s Science Services Administration Program ensures that the reported practices fit into EPA/Chesapeake Bay Program Model. Maryland’s stormwater management practices will follow the Maryland Design Manual and includes Stormwater Ponds, Stormwater Infiltration, Stormwater Filtration, Open Channel Practices, Environmental Site Design (ESD) practices, Alternative Surfaces, etc.”

The commenter states this list needs to be significantly expanded to take credit for all of the types of projects NPDES MS4 Phase I jurisdictions are counting towards urban retrofit requirement.

Response: As efficiencies can be verified, they can be added to the list through a formal EPA process.

Comment # 580.

Commenter: C82

The commenter points out that the WIP indicates that the State will rely on local governments to participate in and support accounting of nutrient loads associated with growth. Additional coordination is not currently in place to track or report on these loads. The commenter points out that tools and support would be required to meet this objective.

Response: See response to comment 89.

Comment # 581.

Commenter: C97

The commenter states that greater accountability and verification of performance of agricultural BMPs is essential and must be required in your WIP.

Response: Greater accountability and verification will be part of the process.

Miscellaneous

Comment # 582.

Commenter: C26

The commenter provides the following corrections and requests for clarification:

- The title of the document should be “Maryland’s Phase I Watershed Implementation Plan for the Chesapeake Bay Total Maximum Daily Load *for Nitrogen, Phosphorus and Sediment*”
- A map should be provided showing the **5** major basins (p. 1-1)
- Page ES-6 to ES-7. Please include units in the tables.
- Page ES-11. Please include units on the vertical axis of Figure A.
- Tables for load targets by source sector are not consistent. Page **ES4** matches Table 1 .I but not Table **4.4**.
- Page **ES-9**, Element 4. Phosphorus reduction should be 18% not 13.7%.
- Page **4-2**, Table **4.1**. Change title to “Comparison of Urban Land Use Estimation Methods for Federal, State and Local lands (Acres)”. The bottom left cell of the **2nd** table should be County B.

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- Page 4-4, Table 4.2. Correct the rounding errors.
- Table 5.1, Source Category. It is unclear whether MS4s are listed under Point Sources or Urban.
- Table 5.1, Page 5-7, Septics
 - Planned Activity - Change “Retrofitting existing septic systems.. .” to “Retrofitting ***new and replacement*** septic systems.. . “
 - Planned Activity - Add “Voluntary upgrades with BRF ***outside the Critical Area***”
 - Description - Add “Connect failing septic systems.. . technologies, if ***readily available***. “
 - Planned Activity - Change “All systems in the Critical Area” to “***Retrofitting of existing*** systems in the Critical Area”
 - Planned Activity - “Change “All systems within 1,000 feet of a stream” to “New ***and replacement*** systems within 1,000 feet of a stream”
- Page 5-31, Section 5.2.4 B. Funding should be “Bay Restoration Fund ***and homeowner’s prorated portion based on income***”:
- Page 5-32, Section 5.2.4 C. Under Strategy, replace the word “stream” with “***tidal waters***”.
- Page 5-32, Section 5.2.4 D. Under Strategy, replace “100 feet” with “***7000 feet***”.

Response: Numerous editorial changes have been made, including complete re-writes or deletion of sections. These comments were all reviewed in that context.

Comment # 583.

Commenter: C80

The commenter suggests the following changes (material in ***bold italics***) to page 5-17 and corresponding changes to the Executive Summary to make the section pertaining to electric generation from poultry litter ***technology neutral***.

“Livestock manure (primarily poultry litter) generated on Maryland farms is currently applied as fertilizer to Maryland crop fields or trucked out of watershed through the manure transport program. A small amount is also pelletized and sold as organic fertilizer for residential and commercial use through the Perdue AgriRecycle effort. Developing alternative uses for manure produced in the Bay watershed represents a potentially large opportunity for both farmers and the Bay. Primary among these are a variety of technologies (~~***ex. biofuel gasification***~~) that can turn manure into electricity and concentrated fertilizer. The electricity produced can ***contribute significant renewable baseload electricity (in the case of larger facilities) or*** be used to power local farms with the excess sold back to the grid (***in the case of small, distributed generation stations***). The by-products of the process can also be sold as a precision, organic fertilizer, ***although in order to be effective the chosen technologies would have to reduce the net amount of nutrients in the watershed.***”

Response: See response to comment 582.

Comment # 584.

Commenter: C54

The commenter included proposed text changes (words in quotes are new text):

Section 5.1 (chart), Septics: page 5-7:

- ***Planned Activity:*** instead of Retro-fitting Existing... use- “New and replacement” septic systems in the Critical Area
- ***Planned Activity:*** add- Voluntary upgrades with BRF “outside the Critical Area”

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- *Description:* add- Connect...technologies “if readily accessible”.
- *Planned Activity:* instead of All... use- “Retrofitting of existing” systems in the Critical Area
- *Description:* instead of All... use- Require that all “new and replacement” septic systems...
- Section 5.2.4, Septics: pages 5-31 & 5-32:
- *Funding:* Bay Restoration Fund “and homeowner’s pro-rated portion based on income”.
- *Strategy:* instead of the term stream, use “tidal waters”
- *Strategy:* Should the 100 feet be “1000” feet?

Response: Numerous editorial changes have been made, including complete re-writes or deletion of sections. These comments were all reviewed in that context.

Comment # 585.

Commenter: C85

The commenter lists several text edits:

- ES-1 - Since 1972, Section 303(d) of the federal Clean Water Act has required states to identify waters that do not meet water quality standards and ~~publically~~ publicly report them on a list published every two years.
- ES-2: Based on those comments, ~~the Plan will be finalized based on those comments~~ and will serve as a starting point for a Phase II planning process, which will occur in 2011.
- ES-3 and 2-2: Maryland is also the first State in the watershed to require nutrient removal technology for new and failing septic systems in its critical area – ~~the land within 1000 feet of the Bay~~ *all land within 1,000 feet of Maryland’s tidal waters and tidal wetlands including the waters of the Chesapeake Bay, the Atlantic Coastal Bays, their tidal tributaries and the lands underneath these tidal areas.* (Definition taken from the MDE website.)
- ES-5: Briefly, the allocation process first set waste water treatment plant load allocations at levels equal to Maryland’s Enhanced Removal Strategy for major wastewater treatment ~~plant~~ plants ~~and~~ as well as to caps set in the 2004 Tributary Strategies for minor facilities.
- ES-5: In addition, ~~the sources closest to the Bay are to do slightly more~~ must achieve greater reductions than ~~the sources further away from the Bay.~~
- ES-16: The Bay Restoration Fund pays for grants to homeowners to upgrade septic systems ***provided specific criteria are met and funds are available.***
- 2-4: 2) Marylanders Grow Trees - encourages citizen landowners to purchase, plant, and register on-line trees on their properties with a goal of 50,000 trees ~~13~~ planted annually.
- 2-5: In addition to ENR upgrades, some major WWTPs require enhancements not eligible for BRF funding, but are a necessary part of the overall formula for successful nutrient reductions. These include ~~projects like addressing~~ measure to address excessive inflow and infiltration (I/I), additional or expanded pumping stations and other needs.
- 6-4: This may include subdividing of parcels and new ownership information being added to the ~~data base~~ database or deletion of the parcel if it is no longer an agricultural operation.
- 6-4: The Maryland Department of Agriculture’s Nutrient Management Program maintains a separate ~~data base~~ database for regulatory compliance.

FINAL

- 6-13: Maryland has provided additional BMPs to be approved by EPA as part of “Stormwater Management by ERA Era,” and will continue to work with EPA on updating acceptable BMP list. (The appearance of what looks like an acronym in the midst of many actual acronyms is confusing.)

Response: Numerous editorial changes have been made, including complete re-writes or deletion of sections. These comments were all reviewed in that context.

Comment # 586.

Commenter: C94

The commenter lists several text edits:

- Page 2-16: first paragraph, the commenter questions whether a preceding paragraph is missing. The commenter suggests that this paragraph does follow on with the preceding paragraph as it appears in the document.
- Page 3-6: last sentence of last paragraph, the commenter indicates that it is not clear what the sentence means.
- Page 4-2: Table 4.1, the commenter suggests the first cell in the last row of table should read, “County B.”
- Page 5-35: the commenter suggests that the last line of first paragraph read “. . .100,000 acres of the acreage will be brought . . . “. Throughout the document the commenter observed many numbers do not include commas for numbers over 999, e.g. 9300. Other numbers do.

Response: The sentence on page 3-6 of the draft Phase I WIP is meant to highlight the challenge of finding adequate offsets for new development impacts if the State is unable to steer much of that growth into sewer areas, where per household nutrient loads are almost 5 times less than in non-sewered areas.

Comment # 587.

Commenter: C85

The commenter recommends the changing the heading on Item D on page 5-32 to “Outside of the Critical Area.” If a system is within 100 feet of a stream, it is within 1,000 feet of a stream. Also, logically the heading of C (All systems in the Critical Area) overlaps with D as it is now.

D) ~~All systems within 1,000 feet of a stream~~ Outside of the Critical Area

Strategy

Require that all septic systems within 100 feet of a stream use best available technology for nitrogen removal.

Funding

Private, Bay Restoration Fund, and tax incentives.

Response: Numerous editorial changes have been made, including complete re-writes or deletion of sections. These comments were all reviewed in that context.

FINAL

Comment # 588.

Commenter: C82

The commenter points out that the WIP incorrectly states on page 2-14 that Frederick County passed legislation to implement a stormwater utility fee.

Response: Numerous editorial changes have been made, including complete re-writes or deletion of sections. These comments were all reviewed in that context.

Comment # 589.

Commenter: C59

The commenter points out that Appendix B does not provide a map or legend to indicate where/what the segments are. If relevant numbers were available, the commenters may be able to grasp the implications of this WIP; however, the draft plan does not provide tangible information needed to understand whether reasonable assurance of implementation can possibly be met by jurisdictions.

Response: Numerous editorial changes have been made, including complete re-writes or deletion of sections. These comments were all reviewed in that context.

Comment # 590.

Commenter: C43

The commenter recommends to revising the Appendix B table and clarify the table headings and reference the segments to a identifiable location or to eliminate the table from the WIP.

Response: Numerous editorial changes have been made, including complete re-writes or deletion of sections. These comments were all reviewed in that context.

Comment # 591.

Commenter: C88

The commenter points out that Appendix B does not provide a map or legend to indicate where/what the segments are. If there were relevant numbers, jurisdictions may be able to understand the implications of the WIP; however, this draft plan does not provide tangible information needed to understand whether reasonable assurance of implementation can possibly be met by our jurisdictions.

Response: Numerous editorial changes have been made, including complete re-writes or deletion of sections. These comments were all reviewed in that context.

Comment # 592.

Commenter: C4

The commenter points out that since 2003, MDNR has known that the bass population in the Potomac River has an endocrine disruption that basically gives them the presence of both sexes that is believed to be caused by the presence of human contraceptives in the river and tributaries that is coming from the sewage treatment plants. The treatment plants are not able to remove these chemicals from incoming sewage with current treatment methods. This condition in the fish threatens to make all aquatic life sterile and sets us up for a catastrophic failure of the entire Chesapeake Bay watershed. The commenter asks what effect does would that have on the food and water supply and shouldn't this problem be addressed before nutrients.

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Response: The issue of emerging contaminants like endocrine disruptors is a serious one that is receiving considerable attention in the environmental scientific community. All pollutants that endanger our water quality and living resources must be addressed, and appropriate methods to do so will certainly be developed with an urgency commensurate with the threat. The ongoing and latest efforts to address impacts to Bay water quality and aquatic life due to excessive nutrients and sediment have no bearing on efforts to address other pollutants, including emerging contaminants.

Comment # 593.

Commenter: C4

The commenter notes that due to the excessive heat and lack of rainfall this summer, the condition of the Potomac River has been record low water levels and crystal clear water since June. As a result, sunlight has been able to penetrate the water column to the bottom of the river, stimulating several algae blooms, which rob the water of oxygen and in extreme conditions can deplete the oxygen levels in the water causing fish and aquatic wildlife kills. The control of sediment targeted for this TMDL development is generally a good thing but MDE must consider that the presence of some sediment in the water can possibly prevent the sunlight from penetrating the water column and help to inhibit the algae growth.

Response: The commenter's point regarding the positive, algae-inhibiting presence of sediment in the water column is acknowledged; the sediment TMDLs are developed to limit the discharge of *excessive* amounts of sediment that cause water quality impairments.

Comment # 594.

Commenter: C4

The commenter feels that MDE is including data from the Savage River, Sideling Hill Creek, and 15 Mile Creek into the model used for the phosphorus TMDL for the Monocacy River for the lack of available data. He points out that the three waterways are not similar to the Monocacy since they are mountain streams, almost completely located in heavily forested areas, have colder water naturally, are located in a colder and drier climate, and have a different aquatic wildlife structure. He feels that if there is not enough adequate data, there should be an attempt to obtain it rather than to use less adequate data into the model.

Response: Questions regarding MDE's methodology for proposed TMDLs to address pollutant impairment listings for Maryland 8-digit watersheds (like those in the Monocacy River system) will be addressed through the TMDL development and public review process for those projects.

Comment # 595.

Commenter: C7

The commenter asks where are TMDLs for 8 digit watersheds and individual WWTPs in the WIP.

Response: For the Bay TMDL Maryland is working at a major basin scale in Phase I and a county scale in Phase II. However, the State will be able to take final model results, due in July, and determine if the 8-digit or Bay TMDL is more stringent. The more stringent will apply. All reductions achieved for the Bay TMDL will be applicable for local TMDLs. Approximately 100 tidal nutrient TMDLs, and a result of the Bay TMDL.

FINAL

Comment # 596.

Commenter: C7

The commenter asks why the WIP does not a map that clearly details the geographic extent of the various “Chesapeake Bay Segments?” He says that without such a map, the numbers in the appendix are meaningless with regard to where they apply.

Response: A map was added in the final submission.

Comment # 597.

Commenter: C22

The commenter asks if there are partnership considerations for other states to help them reduce their non-point source pollution.

Response: It is unclear on what kind of partnerships the writer is referring to.

Comment # 598.

Commenter: C26

The commenter asks how the error generated by the significant differences in land use estimates, as indicated on Page 4-3, will be handled.

Response: The referenced information will need to be resolved with localities during Phase II. However, it must be understood that progress will be evaluated by the Bay Model, and therefore the Bay land use. The State and EPA can try to bring them closer together by 2017.

Comment # 599.

Commenter: C31

The commenter, the town of Church Hill, notes that the draft WIP suggests that local governments may propose alternative approaches to address nutrient loadings, however, it is not clear what role state and local governments will have in reviewing and/or approving locally proposed approaches or how such approaches might be preempted by the draft WIP’s prior designation of areas as low, moderate, or high loading areas. The framework for this seems very important and the commenter suggests further development of this topic area in collaboration with them prior to any State designation of Church Hill as something other than a “low” loading area.

Response: See response to comment 89.

Comment # 600.

Commenter: C31

The commenter notes that the schedule for developing “off-set” policies does not seem reasonable given the state’s objective of seeking input. It may be unrealistic to think that off-set policies and implementation actions can be legislated and/or required by 2012 while encouraging local entities to participate. In the final version of the WIP, the commenter requests more details on this topic.

Response: See response to comment 89.

Comment # 601.

Commenter: C43

The commenter states that enforceable and otherwise binding means described on page ES-12 of the WIP will be handled by local governments. This puts local governments in a precarious position, since it is not fully known if the WIP strategies will achieve the required load reductions and if the funding necessary to implement them will be available. The commenter points out that if after spending taxpayer dollars, the strategies are found insufficient, the consequences for not meeting TMDL allocations will be borne by the local governments in terms of fines, lawsuits, increased program oversight, and increased requirements (as noted in EPA's *Consequences Letter* signed December 9, 2009) or even building moratoriums.

Response: These are two different issues. If a county for example, were to pay an agricultural interest to achieve additional nutrient reduction so it could do less on stormwater, that agreement would need to be binding. The overall strategy will be evaluated based on actual implementation. Actions required by permit will be subject to compliance and enforcement actions.

Comment # 602.

Commenter: C43

The commenter states that at least two local jurisdictions are missing from the count on page 2-14 of local jurisdictions with stormwater charges. He suggests the list should include Charles County which has an annual Environmental Service Fee and a one-time stormwater impact fee for new lots, and the Town of La Plata which has a Stormwater Fee included on the Town's quarterly service bill.

Response: These localities should be added to the list of Maryland Jurisdiction's with stormwater charges.

Comment # 603.

Commenter: C43

The commenter suggests the following text in Section 3.4 after the first full paragraph on page 3-11 "Considering this, in 2011 the State of Maryland will award grants to local jurisdictions for applications offering partnerships between public and private sectors in the creation of regional stormwater retrofit and water quality improvement projects and mitigation banks to be used as model programs for the future."

Response: Numerous editorial changes have been made, including complete re-writes or deletion of sections. These comments were all reviewed in that context.

Comment # 604.

Commenter: C43

The commenter notes that in Appendix A, text indicates the intent to require specific WLAs for the 124 county-segmentsheds, which was not clarified in the main text of the WIP. The commenter recommends that a list of these 124 segmentsheds be included in the main text of the WIP, as well as in the Executive Summary, and a map included in the document which illustrates the general location of these on a regional or county-wide basis. This will provide a graphic representation of the impacts of the WLA on a geographic basis and local government and further illustrate the need to secure funding to implement the strategies as outlined in the overall WIP.

Response: See response to comment 582.

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Comment # 605.

Commenter: C33

The commenter states the review timeframe and amount of time for the State to adequately incorporate comments are insufficient.

Response: The time frame was set by a legal settlement. There will be more time to review and modify if necessary during Phase II.

Comment # 606.

Commenter: C33

The commenters request that *control strategies* is more clearly defined at the beginning of the WIP and that a Please include a definition of *targeted areas* as it relates to septic system nitrogen updates be included on page 3-9 in the third paragraph.

Response: See response to comment 582.

Comment # 607.

Commenters: C33, F75

The commenters point out that Figure 3.1 indicates 7.21 lb N/yr is generated per new household on septic systems, while the footnote says that 12.16 lbs N/yr is generated per new household. The commenters request that more description related to the differences between these two numbers is given.

Response: Detail on the methodology for developing these numbers is already provided in footnote 9 of Section 3.2 of the draft Phase I WIP. However, the numbers in Figure 3.1 of the draft Phase I WIP are in error because they represent per capita nutrient loads, not per household nutrient loads as the label of the figure indicates. The numbers in Figure 3.1 of the final Phase I WIP have been updated to reflect per household nutrient loads.

Comment # 608.

Commenter: C33

The commenter points out that the text on page 3-5 in the first paragraph references the need for septic system upgrades, stormwater retrofits, and WWTP upgrades as “must be part of the solution” activities and then “but many will cost more per pound of nitrogen reduced than targeted options.” The commenter suggests this is a good place to discuss cost estimates and cost/benefit analysis and suggests this section be expanded to include a specific discussion regarding those items.

Response: More details on costs have been added to Section 5 of the final Phase I WIP.

Comment # 609.

Commenter: C33

The commenter notes that the text in the last paragraph on page 3-6 suggests that sector target loads might be increased so there would be room for new growth. The commenter request this be clarified in the text.

Response: The Phase II WIP process will reexamine target load allocations among point and nonpoint sources.

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Comment # 610.

Commenter: C33

The commenter requests clarification on page 3-8, if jurisdictions or watersheds that already exceed the caps will get an allocation for future growth and that the State include text indicating if offsets will still be allowed in areas where the WWTPs exceed their caps.

Response: The Phase I WIP accounting for growth policy envisions the remaining WWTP capacity below WWTP caps as the allocation for future growth in WWTP loads, but does not provide an allocation for future growth in stormwater or septic tank loads. Once WWTPs reach their caps, they will only be allowed to exceed their caps through trades that are in compliance with the guidelines established in the MDE Policy for Nutrient Cap Management and Trading (see <http://www.mde.state.md.us/programs/Water/Pages/water/nutrientcap.aspx>) and the draft MDA Guidelines for the Exchange of Nonpoint Credits (see <http://www.mdnutrienttrading.com/>).

Comment # 611.

Commenter: C33

The commenter notes that the preliminary schedule to develop offset policies and procedures for septic and land development seems to be rather long given target dates and the length of time needed to get these measures in place on the ground and on page 3-10, 2013 seems optimistic for offset policies, many of which may require legislative approval.

The commenter notes that text on page 3-10 indicates that offsets are expected to primarily come from the agricultural sector. The commenter suggests that some consideration be given to contingencies if the agricultural sector cannot meet its allocations and text should be included to identify how the offset program would work and how this would impact meeting the total allocation for a watershed.

Response: See response to comment 89.

Comment # 612.

Commenter: C33

The commenter points out that the text on page 4-1 is not clear on how current loads from the sector were estimated. The commenter requests an explanation if the load estimate accounts for practices already in place that may not be elsewhere.

Response: Practices not reported have not been credited; they can be when reported. Current loads do not affect the allocations which are developed either from policy, i.e., WWTP ENR cap strategy, or based on watershed model scenarios assuming no action and maximum action and taking a fixed percentage that will achieve the EPA allocations.

Comment # 613.

Commenter: C33

The commenter points out that the text on page 4-1 references “current programmatic capacity to reduce loads” and requests information on specific policies, staffing, costs, programs, etc. should be made available so that local jurisdictions understand exactly what is included in the “current capacity.”

Response: For local jurisdictions “current capacity” is what they are currently spending on programs that reduce nutrients and sediments. Current capacity in the WIP reflects only State current capacity.

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This will be part of Phase II, however, Maryland has found that estimating current capacity is not all that helpful since it has tended to stabilize loads rather than reduce them.

Comment # 614.

Commenter: C33

The commenter asks for more detail for the third bullet on page 4-1 as to how future growth was estimated, what data was used to do so, and what the baselines and basic assumptions were. If current growth potential is not accounted for, some necessary actions, such as downsizing, cannot be properly credited to the jurisdiction.

Response: Chesapeake Bay Program estimates were used for estimates of future growth. The model has been peer reviewed.

Comment # 615.

Commenter: C33

The commenter requests clarification on page 2-2 whether 2-year milestones represent an acceleration of current capacity or just represent an acceleration of the EPA's schedule to get measures in place.

Response: Two year milestones will reflect acceleration in the rate of reduction of nutrient and sediment loads. To achieve that acceleration existing programs will need to be expanded.

Comment # 616.

Commenter: C33

In the footnote on page 4-1, the commenter points out that the State may desire to not to create controversy by setting variable reductions between sectors. The commenters states that if certain sectors have more or less feasible capacity for reduction, that should be reflected in the percentages.

Response: Feasible capacity was reflected because the percentages were of the difference between E3 (maximum feasible reduction) and no action. By using the E3 scenario, feasibility was implicit, at least on a statewide basis.

Comment # 617.

Commenter: C33

The commenter notes that implementation of the WIP will change land use plans through the comprehensive planning process, however, it is not clear how the process will be different and how to incorporate the appropriate factors to achieve targets. There should be serious consideration about the impact on a jurisdiction's ability to focus growth within designation growth areas with all measures in place. The impact on property owners' ability to achieve economically viable use of their land is a key component of the planning process, but also is a key legal consideration.

Response: The Phase II WIP should consider these issues. Subsequent comprehensive plans should then incorporate the WIP plans. Because of the need to account for growth, and because growth generates smaller loads in areas with adequate infrastructure, the State believes that a focus on Smart Growth will be a significant component of the Phase II process.

Comment # 618.

Commenter: C87

The commenter references research by the Chesapeake Bay Commission and the Center for Watershed Protection and compiled by Wetland Studies and Solutions, Inc., showing agricultural

CRD1 for Maryland's Phase I Watershed Implementation Plan for the Chesapeake Bay Total Maximum Daily Load

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nutrient removal practices are more than an order of magnitude less expensive than urban stormwater management practices. Specifically, the Chesapeake Bay Commission Report, “Cost Effective Strategies for the Bay” prioritizes the most cost effective practices as follows:

1. Wastewater Treatment Plant Upgrades
2. Diet and Feed Adjustments
3. Traditional Agriculture Nutrient Management
4. Enhanced Agriculture Nutrient Management
5. Conservation Tillage
6. Cover Crops

The commenter points out that retrofitting existing urban areas increases the cost of urban stormwater management, making agricultural nutrient management more cost-effective. All necessary wastewater infrastructure should be completed first, before a wide spread retrofit program is implemented.

Response: Trading between those sectors would make a lot of sense, because it could significantly reduce costs.

Comment # 619.

Commenter: C87

The commenter notes that Maryland is considering incorporating a requirement for a permanent offset requirement for new development and that would be unprecedented and financially unsustainable in preparing housing to meet the demands for population increases and economic development and would add another factor that will negatively separate Maryland from the other Bay States.

Response: See response to comment 152.

Comment # 620.

Commenter: C87

The commenter states the WIP should address:

- Septic development should not be held to a state standard due to the lack of uniformity of septic development throughout Maryland.
- The WIP should focus on the red areas of the DNP red headed power point.
- The WIP should recognize the water flow attributes of western Maryland as a unique area; and not treat it with the same proportion as the rest of the State.

In addition, the commenter states that all of the WIP provisions should have an articulated transition plan for implementation. Local land use planning and approval process should dictate implementation of all new statutory and regulatory obligations that result from the WIP.

Response: Transition will be part of Phase II, especially development of the milestones for 2012 and 2013. However, localities should realize that the longer the transition, the less time to accomplish the remaining implementation.

Comment # 621.

Commenter: C87

The commenter states that Maryland is the leader in the Bay States in establishing stormwater practices, regulation of MS4s, ESD to the MEP, and woods in good condition. EPA needs to establish an equal level of discharge requirements and the commenter is concerned that EPA will require catch up measures intended for other states that will unduly punish the sectors in Maryland. The commenter

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requests that Maryland protect Marylanders interest in the TMDL and other related EPA processes that attempt to bring other states to the Maryland standard.

Response: At the time this is written, EPA has informed Maryland that there will be no Maryland backstop measures. If anything, EPA's imposition of additional controls on other States will bring their programs closer to ours and make Maryland more competitive.

Comment # 622.

Commenter: C87

The commenter states that on page 2-1, the WIP states, "EPA has provided estimates of nutrient and sediment 2009 baseline loads and allocated load limits to the Bay watershed jurisdictions that are predicted to meet water quality standards in the Chesapeake Bay, as shown in table 2.1. However, Maryland has refined information that suggests the baseline load is lower than that estimated by EPA and Maryland will work with EPA to provide corrections at initiation of the Phase II process." The commenter points out that the WIP does not define the source of Maryland's "refined information" and the commenter believes that any such information pertaining to a lower baseline load must come from an objective third party, not from the sectors directly affected by the TMDL. For instance, the agricultural sector has often stated that farmers' past voluntary nutrient reduction efforts should be credited in the WIP; if this is one source of the "refined information" indicating a lower baseline load, further necessary reductions will likely be skewed toward other sectors within Maryland. The commenter requests that Maryland publicly divulge the source and information referred to in this section.

Response: The lower 2009 progress load proposed by MDE results from a change to the on-site septic system load and the minor industrial point source load.

The 2009 progress load presented in Table 2.1 includes a septic system load that is based upon a mix of MDP septic system accounting and EPA population estimates. MDE has worked with EPA to revise the population estimates, using MDP data, which Maryland suggests is more accurate and also consistent with the underlying septic system numbers. This improvement to septic system loads is already included in the interim target load, the TMDL scenario and will be included in the Phase 5.3.2 watershed model.

Since this is the first time minor industrial point sources have been included in the CBP watershed modeling system, there are ongoing revisions to this dataset. Since many of the permits did not contain baseline nutrient information (e.g. swimming pools, convenience stores, etc.) literature values were used by EPA to provide initial estimates. MDE provided a comprehensive review of 537 entities and adjusted baseline loadings where data supported the changes or where errors in original estimates occurred. MDE views this step as a necessary revision to provide an accurate baseline for these newly includes sources.

Comment # 623.

Commenter: C87

The commenter notes that on page 2-10, the WIP states, "Restore, enhance, and maintain the chemical, physical, and biological integrity of the waters of the State." The commenter recommends that "restore" should be defined for clarity to understand the potential implications of the WIP. The commenter asks what are the design requirements to achieve "restoration" of the integrity of State waters and does this phrase equate to implementing Environmental Site Design (ESD) to the maximum extent practicable (MEP), or does it have another meaning.

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Response: The referenced language is a direct quote from the Clean Water Act. In practice, restore means to achieve water quality standards. For any single sector it means meeting the level of implementation necessary to achieve that sector's allocation. Cumulatively it means to achieve the allocation of all sectors as presented in the TMDL. See also response to comment 132.

Comment # 624.

Commenter: C87

The commenter notes that on page 2-10, the WIP states, "In 2008, based generally on the 2004 Tributary Strategy, Maryland established a Chesapeake Bay restoration goal to retrofit 40% of existing developed lands, or approximately 416,000 acres, by 2020. This acreage estimate is based on the 5.1 version of the Chesapeake Bay model. To meet this schedule, approximately 40,000 acres need to be restored by 2011."

The commenter also notes that this statement conflicts with page 8-13 of the draft TMDL, which states, "Maryland's draft Phase I WIP provides that 50 percent of the state's urban acres developed before 1985 in Phase I MS4 jurisdictions will be redeveloped or retrofit by 2020 to a 25 percent stormwater efficiency. Forty percent of the state's urban acres developed before 1985 in Phase II MS4 jurisdictions and smaller, non-MS4 areas will be redeveloped or retrofit by 2020 to a 45 percent stormwater efficiency. If those retrofit and redevelopment requirements are not sufficient to have practices in place by 2020 to meet Maryland's stormwater WLAs, EPA assumes that Maryland will increase these retrofit and redevelopment requirements accordingly."

Response: Comments on page 2-10 provide general description of the program and its current requirements. Final WIP include two strategies: a total of 30% retrofits by 2017 in MS4, Phase I jurisdictions and a total of 20% retrofits by 2017 in MS4, Phase II jurisdictions.

Comment # 625.

Commenter: C87

The commenter notes that on page 2-12, the WIP states, "Major new provisions of the permit include requiring restoration of an additional 20% of impervious surfaces (on top of 10% already required for a total of 30%)..." The commenter points out that this statement conflicts with the requirement, on page 2-9, to restore 10 percent of impervious surfaces during each 5-year permit cycle. This statement also conflicts with Maryland's restoration goal of 40 percent by 2020 (page 2-10). The commenter requests that the Montgomery County MS4 permit requirements should be clarified as to whether Maryland will require 20, 30, or 40 percent restoration of urban lands. Additionally, the TMDL does not define restoration; this needs to be considered and clarified.

Response: For Phase I jurisdictions, 10% retrofit of pre-1985 acres was already required. With the new permit cycle exemplified by the Montgomery County permit, another 20% is required in the next five years. The following permit round will also require another 20%. So depending on the timing it can be 20% (the next cycle), 30% (previous retrofits plus the next cycle), or 40% (the next two permit cycles). Restore within the framework of the stormwater permit means to fully implement the current stormwater requirements, including implementing all approved TMDLs. See also responses to comments 132 and 624.

Comment # 626.

Commenter: C87

The commenter points out that on page 2 of Appendix J, a public comment on the Maryland draft WIP states, "Do not require the agriculture community to do more when it is already meeting its goals

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because Maryland is falling short of its statewide goals because of other sector areas.” The commenters states that comment is checked as “already happening” and that is incorrect and misleading. A review of the draft WIP results shows that the agricultural sector is allowed higher TN, TP, and TSS unit loads than urban land and means that, per acre, agriculture is allowed more loadings than developed urban areas. Therefore, to say that the agricultural sector should not be required to reduce pollutant loads farther after “meeting its goals” is inconsistent.

Response: The intent of checking “already happening” should not be interpreted as already meeting load reductions goals. All sectors will need to reduce loads further to meet both the interim target loads and the TMDL target loads as illustrated in the executive summary tables. One of the challenges is to determine the required load reductions using an equitable process that considers the impact to the Bay, provides credit for existing actions and does not push a sector beyond the limit of feasibility. MD has started this process in determining the TMDL target loads (see Element 8) and anticipates refining these allocations, giving more consideration to cost and trading, through Phase II and also the 2-year milestones.

Comment # 627.

Commenters: C89, C93

The commenters agree with Center for Progressive Reform’s (commenter C34) comments.

Response: Please see responses to other comments from C34.

Comment # 628.

Commenters: C89, C93

The commenters express concern with stormwater in the WIP because rural and agricultural areas are increasingly urbanized and converted into impervious surfaces, stormwater is the only expanding source of pollution in the watershed. Stormwater is considered a point source and thus operators of MS4s, construction and industrial stormwater require a NPDES permit. Because Bay states often administer the stormwater permitting program through local governments, it is crucial that WIPs contain information about how local governments administer this program.

Response: The local jurisdictions are required by permit to develop annual reports that show how they administer their programs. The links to the information are part of the final WIP, Phase I. Additional information about local programs is also available on the websites of MS4 jurisdictions.

Comment # 629.

Commenters: C77, C89, C93

The commenters state that the WIP does not mention that Maryland has failed to issue permits; failed to reissue permits in a timely manner; failed to issue permits that conform with federal requirements, including the requirement to have meaningful links to existing TMDLs; failed to inspect facilities as required by law; failed to fulfill its monitoring responsibilities; failed to effectively enforce the program; failed to seek adequate penalties; and failed to comply with public participation requirements.

The commenters express concern with Maryland’s enforcement deficiencies and requests that the final WIP explain how Maryland intends to improve its enforcement program and address these issues as they relate to the Bay.

Response: Part of Phase II will be development of a funding plan. MDE is already working on ways to improve its permitting and enforcement programs. Maryland is negotiating a number of permits

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with local governments. Additional resources and staff would be needed to increase enforcement activities.

Comment # 630.

Commenters: C89, C93

The commenters note that in December 2009, Waterkeepers petitioned EPA to withdraw approval of the State of Maryland's NPDES program. The petition suggests that the Maryland NPDES program is failing and requested that EPA review how Maryland administers and enforces their NPDES program, and work collaboratively with the MDE and Waterkeepers to develop solutions for problems within the NPDES program. The commenters note that if MDE fails to demonstrate sufficient ability to administer their NPDES program, EPA must withdraw its approval and assume administration and enforcement of the program.

The commenter expresses concern that given Maryland's record, the final WIP will not disclose information about existing facilities without permits. The commenter expresses concern that Maryland lacks the inspectors necessary to identify unpermitted facilities and get them into the permitting system. Maryland has not allocated the resources to deal with expired or administratively continued permits, and has outlined no plans to do so in the draft WIP. The draft WIP is severely deficient in that it does not explain how Maryland will implement a system to issue permits that conform with federal requirements including the requirement to have meaningful links to existing TMDLs; to hire personnel to inspect facilities as required by law; to fulfill its monitoring responsibilities; and to comply with transparency requirements.

Response: There are no facilities that require permits that are without them. If permits are not revised, they are administratively continued. The status of a permit is a public record, accessible to the public. EPA has received the petition, and will review Maryland's program. Maryland are confident that EPA will determine that Maryland is doing its best in the current economic climate and that EPA, dependent on only available federal funds could not do as well to protect the environment as Maryland can with federal funds and a significant state contribution to the program.

Comment # 631.

Commenters: C77, C89, C93

The commenters request that the final WIP include information regarding participation and effectiveness of BMPs funded by the MACS program, in addition the WIP must provide for dedicated funding for monitoring and verification.

Response: The Bay Program provides the BMP efficiencies. The funding source for the BMPs does not affect the efficiencies. There are existing programs for monitoring and verification.

Comment # 632.

Commenters: C77, C89, C93

The commenters note that the draft WIP does not disclose the estimated funding and personnel gap and does not explain how this gap will be filled to ensure that the state has and maintains an effective stormwater program and this is especially true in Phase I MS4 jurisdictions. The WIP supports the reasonable assurance of Maryland's part of the TMDL implementation. The commenters state that this includes a demonstration that achieving load reductions required by the TMDL can reasonable be met and that current or anticipated resources and commitments are expected to be sufficient. However, the WIP says that locally administered programs will be analyzed in Phase II. The

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commenters ask if the Phase I WIP fails to analyze Phase I MS4 jurisdictions and their capacity to achieve reductions, how can Maryland provide any assurance that implementation will be successful.

Response: More information on funding and costs was included in the final submission. MS4 jurisdictions are under permit. If the requirements are not met, enforcement, penalties and consent decrees are possible to provide assurance. Reasonable assurance should in actuality apply to non-point sources; reasonable assurance for point sources are embodied in the permits.

Comment # 633.

Commenter: C58

The commenter points out that the Executive Summary states, “Maryland believes that, because of the close relationship between sediment and phosphorus loads, initial nonpoint source strategy options to achieve phosphorus goals will likely also achieve sediment goals. Consequently, limited attention is given to sediments in this draft of the Plan (page ES-5).” The commenter request that this assumption is clarified since sediment is a major pollutant of the Monocacy River, because its watershed contains a high percentage of highly erodible soils.

Response: The assumption is a generality, borne out by the model to be effective statewide. It is possible that for certain local areas this will not be true. If additional sediment reductions are needed they will be required either by local TMDLs or through Phase II, which will have the required geographic specificity.

Comment # 634.

Commenter: C51

The commenter states that traditional planning process requires that a plan be prepared and adopted prior to implementation. Since the Bay TMDL provides the technical foundation for the WIP, it would make greater sense to complete the TMDL before determining what actions are needed to implement it. This problem will be compounded if MDE accepts new allocations from EPA after the public comment period for the draft WIP has closed. It seems reasonable that adopting the TMDL before completion of the WIP would provide local governments more time to consider the actions necessary to comply with the TMDL and a clearer understanding of the level of compliance that is truly necessary.

Response: The allocations have not changed. The WIP is reasonable assurance for the TMDL and so cannot follow it, but must be submitted with it. Phase II will provide both additional time for review, an opportunity to revise intrastate allocations and an opportunity to find more cost effective approaches.

Comment # 635.

Commenter: C62

The commenter points out that the agriculture community has made great progress and has done its fair share in the past, but achieving the goals of the WIP will depend greatly on the other sectors meeting their requirements.

Response: The other sectors have made the same comments about agriculture. Each sector will have allocations and will need to meet them or everyone will suffer the consequences of EPA backstops.

Comment # 636.

Commenter: C55, C81

The commenter points out that during 2009, per MDE's Annual Enforcement and Compliance report, only 16 percent of construction sites were inspected. Of these sites inspected, 3 percent or 74 sites had significant violations. Extending this violation rate to un-inspected sites, yields 402 sites with potential significant violations ($13,414 \text{ total sites} \times 3\% = 402$). The commenters suggest that violation rate may be considerably higher and do not take in to account delegated counties and municipalities, as well as, what is actually happening with enforcement in those locations. The number of inspections MDE performed has decreased 41.5 percent since 2007—from 6,546 to 3,829. This decrease in inspection activity has resulted in untold tons of sediment entering local waterways and the Bay and must be addressed in the WIP.

The commenters note that Maryland State law is clear in that sites are to be inspected once every two weeks and the commenters note that this is not even close to what is actually happening and to ignore this significant source of sediment pollution in the WIP is not acceptable. The commenters request a strategy to be developed to ensure sediment pollution from construction sites is curtailed.

The commenters note that numerous Soil Conservation Districts (SCDs) have taken advantage of opportunities to work cooperatively as agents of MDE to address this problem. Expansion of this approach and other avenues, with appropriate funding mechanisms, beyond current ability to charge fees, is one approach that should be considered. Funding could be provided to SCDs from administrative penalties, as a result of sites inspected by MDE and/or the Districts with subsequent violations or via General Permit (NOI) fees collected by MDE as a result of permit applications.

Response: Additional resources would be needed to increase enforcement activities.

Comment # 637.

Commenter: C66

The commenter supports enforceable regulations to clean up the Bay. The commenter is disappointed that voluntary deadlines have expired without progress. The commenter states that real standards, enforced, with respect for small family farmers, may be what this regional ecosystem needs.

Response: Agreed.

Comment # 638.

Commenter: C74

The commenter requests that the WIP point out to the public and elected officials, the enormous benefits to the state economy and to individuals. These benefits include a cleaner and healthier bay, restoration of the seafood industry, increase tourism and boating, reductions in health risks from water contact, and improve real estate values to the Bay.

The commenter suggests that the WIP include measures that provide increased public access to the Bay, such as open space, parks, and picnic areas to compensate for financial sacrifices required for clean-up efforts.

Response: The WIP is narrowly focused on strategies to reduce loads of nutrients and sediment. Other aspects of Bay improvement such as public access are being addressed separately.

Comment # 639.

Commenter: C57

The commenter states that the analysis from Tables 1.2 and 1.3 was conducted primarily on the nitrogen reduction, with the phosphorus reduction analysis to be included in the final WIP (page 5-19). Since the regulated urban reduction target is 34 percent for phosphorus and 37 percent for sediment, the commenter notes that it is difficult to evaluate the urban restoration efforts required on the basis of nitrogen alone.

Response: The model calculates phosphorus reductions from the BMPs included in the input deck. The final submission will meet nitrogen, phosphorus and sediment goals.

Comment # 640.

Commenter: C57

The commenter asks if the increase in the urban load, noted in the fourth paragraph on page 4-3, includes the wastewater loads (septic and ENR) and is stormwater management accounted for in the calculations of the urban load increase.

Response: The increase in urban load is mostly stormwater. Development has been rapid on average over the last decade, and the increase in impervious surface and the general increase in urban area, is largely responsible for the increase.

Comment # 641.

Commenter: C57

The commenter states that it appears from the figure on page 5-33 and the loading discussion, that agriculture represents 39 percent of the load, not 35 percent as stated. The commenter notes that 22 percent chemical fertilizer + 12 percent manure + 5 percent atmospheric deposition from agriculture operations = 39 percent.

Response: The text has been changed to reflect the figures.

Comment # 642.

Commenter: C111

The commenter states that the public needs to understand the TMDL and the impact of the human environment on water quality and that while EPA and Maryland held information sessions over the past year for stakeholder groups, the commenter believes there are many residents in Maryland that are not being reached. Water quality is a challenging issue to communicate. The Bay states would greatly benefit from a federal campaign aimed at educating our businesses and residents of the importance of improving water quality for the region.

Response: In addition to government meetings, there have been numerous newspaper articles, TV interviews, messages from non-profits, even newsletters from groups that while opposed, serve to educate their constituencies. To one who is interested in the issue, education seems to be a solution that seems obvious. In practice, it is extremely hard to reach those not interested. For the most part, those who oppose aspects of the Bay restoration base their opposition on “pocketbook” issues and are not likely to be swayed by better understanding the issues. There was actually very high public involvement for the WIP in comparison to most environmental issues.

Comment # 643.

Commenter: C79

The commenter expresses concern that the backstop WLAs may not coincide with the actual loadings at Cove Point LNG Terminal. The commenter states that EPA recognizes that most non-significant facilities do not have monitoring data for nutrients and sediment, since they have not been required to monitor for these effluent constituents. When developing the draft TMDL backstops for non-significant facilities, the EPA has relied upon estimates from Tetra Tech on the basis of typical pollutant concentrations for non-significant industrial plants. The commenter believes the aggregation of data from across an industry or industry sector may produce illogical results when applied to an individual facility, especially where individual facilities within an industry can have very different effluent characteristics and may produce permit limits that fail to sufficiently recognize the nature of operations at individual facilities and ensure the maintenance of water quality standards. The commenter does not have sufficient monitoring data available to analyze the amount of nutrient and sediment loadings at the Cove Point LNG Terminal.

If the backstop is put into place, the commenter requests that Maryland and EPA develop WLAs that represent actual effluent characteristics and recognize the nature of operations at individual facilities. In the WIP, MDE notes that it is continuing to refine the loading estimates to identify and verify the non-significant industrial discharge of nutrients. The commenter notes that MDE will conduct an extensive survey to determine the nature as well as quantity of nutrients produced by non-significant facilities. The commenter supports the Maryland plan to monitor for nitrogen, phosphorus, sediment, and flow at non-significant facilities, such as the Cove Point LNG facility.

Response: EPA is not imposing backstops on Maryland. Maryland will work to correct inaccuracies in the relevant data sets.

Comment # 644.

Commenter: C84

The commenter notes that stream restoration is considered only for its ability to reduce nutrients and that nutrient reduction is not well understood in streams. Work by Margaret Palmer and others is attempting to quantify nitrogen removal in the hyporheic zone of stream channels, which is one mechanism for nitrogen reduction in streams, but not the only one. Nutrient processing by aquatic organisms in a healthy stream is a major factor which is not even considered much less estimated. The annual leaf fall from riparian zones into stream systems is processed nearly quantitatively by macro and micro-invertebrates in healthy streams with diverse aquatic life. When streams become unstable and deliver excess sediment into their channels virtually all aquatic life can be eliminated, thus eliminating this form of nutrient processing. Under these conditions the allochthonous inputs to a stream system, rather than being incorporated into the food web, get transported downstream and taken up in anaerobic digestion. Thus, the secondary impact of an unstable stream channel is to increase nutrient delivery and cause additional problems such as increased biochemical oxygen demand and significant reductions of dissolved oxygen.

The commenter states that it is important to have an understanding of the magnitude and impact of sediment from stream channel erosion. Without this understanding benefits of stream restoration are underestimated. Research is needed to help quantify these impacts and thus the benefits of restoration. The commenter recommends that preliminary estimates of the volume of eroded sediment from stream channels be an important factor to evaluate in considering stream restoration as a process for inclusion in the WIP. A standard amount of sediment reduction cannot be used as a basis for

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evaluating stream restoration benefits because the amount will vary with the amount of sediment being generated by the stream being restored.

Response: Several of the counties have indicated their intention to use stream restorations as a primary means of obtaining their urban nutrient reductions. Although quantified in terms of N, P and sediment for the WIP, local monitoring will focus on restoration of biological communities. In addition, as part of their annual reports, many localities are conducting monitoring as part of their permit requirements. Some of this serves to better quantify the benefits of stream restoration.

Comment # 645.

Commenter: C98

The commenter (Clean Water Action) is hopeful that the WIP incorporates a detailed strategy that contains and promotes both an aggressive timeline and mechanisms for attainment and enforcement, with an emphasis on approaches outlined in the introductory bullets in this document. The commenter states that Maryland has an opportunity to demonstrate a national model of integrated and holistic watershed management. By doing so as part of a regional effort to restore the Chesapeake, the state will be investing in a greater movement that will define Maryland's future.

Response: In setting 2020 as a date to complete implementation rather than 2025, Maryland has already set an aggressive timeline. BayStat will focus on attainment on a monthly basis.

Comment # 646.

Commenter: C95

The commenter supports the MDE proposal to set required reductions for local jurisdictions in proportion to their direct impacts to and benefits from the Bay and tidal tributaries. The commenter states that in order to meet this proposed approach, local jurisdictions must be provided with fair and equitable credit for projects implemented to date. To assist jurisdictions, the commenter suggests that MDE provide credit for practices that are not currently included on the Bay Program's list of model BMPs. The commenter states this is especially true for the wide variety of ESD practices that are now the preferred approach by EPA and by Maryland stormwater law.

Response: Prior implementation can be credited if the efficiencies to be applied can be verified through the Bay Program workgroup process.

Comment # 647.

Commenter: C85

The commenter questions the WWTP/CSO loads on table 1.3 (page 1-4) and on page ES-7 in the Executive Summary. The table indicates that this sector has a 2009 Progress load of 8 and a target of 77, with a reduction of -879 percent. The commenter asks if this is an error or a tradeoff for effective treatment and requests that the unit (millions of pounds per year) be placed on the tables.

Response: The negative reduction is not an error. The 2009 progress loads are estimated with the facilities' 2009 flows and TSS effluent concentrations. The target load is higher than 2009 Progress estimates because target loads are estimated using design flows and TSS permit limits, both of which, in general, are higher than current WWTPs discharges.

Loads units have been included in all the document's tables.

Comment # 648.

Commenter: C85

The commenter states that the text on page 2-7 states that current BAT has an average cost per septic system of \$13,500 and reduces the nitrogen load by about half. The commenter states that a claim of 50 percent reduction in nitrogen loading may be true for a properly functioning system and asks if provisions will be made for mechanisms to ensure proper maintenance and if there has been follow up effluent testing for the systems installed thus far to make sure that the projected 50 percent reduction is being attained.

Response: If the BAT was installed with State funds a five year maintenance contract is required. After that, it is hoped that homeowners will continue such contracts. If the efficiency drops from what is projected, it should show up in the water quality monitoring.

Comment # 649.

Commenter: C88

The commenter states the entire WIP is based upon the flawed Chesapeake Bay model and the entire scheme is to be implemented using model data. The commenter states targeted offsets are not quantifiable. The commenter believes certain BMPs are not quantifiable and will not be verifiable until at least 2017. The commenter states that enormous expenditures and behavioral shifts will be undertaken over the next 5 to 7 years in pursuit of objectives which may never materialize and/or manifest themselves in the form of an actual, measurable reduction.

Response: While not perfect, the Bay Model is the best tool available and has undergone significant technical review by scientists and engineers familiar with such models. Even if not perfect, the WIP provides detailed strategies for only the first 70% of implementation, and the model is not off by that much. Finally, while certain BMPs may not be quantifiable in the short term, many are currently quantified, and the effectiveness of implementation will be determined by water quality monitoring.

Comment # 650.

Commenter: C86

The commenter strongly supports the development of the most cost efficient and targeted strategies to reduce the flow of nutrients and sediment into the tributaries and main stem of the Chesapeake Bay. Such reductions for the Severn River watershed are expected to have a significant impact on water quality of the Bay as a whole since the Severn River is in the region of the Western shore tributaries, a region with nearly the worst of the Bay Health Indices: 24 out of 100.

Response: Agreed.

Comment # 651.

Commenter: C82

The commenter (Frederick County) points out that Table C on page ES-12 indicates that the goals for the TMDL would be met for urban stormwater in 40 years, but that 3 to 4 times the current capacity would be needed to meet the goals by 2020. In reality, the capacity would have to be significantly increased beyond 3 to 4 times current levels due to increasing marginal costs and efforts to retrofit. The most cost effective restoration efforts will occur first. These increases pose a financial hardship to Frederick County and there are inadequate mechanisms available from outside sources to significantly help fund such an enormous effort.

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Response: It has yet to be determined what the external resources will be. Stormwater utilities are one tool to bring forward the resources necessary to make progress.

Comment # 652.

Commenter: C82

The commenter (Frederick County) points out that there are significant discrepancies between State, Bay Program, and local estimates of urban impervious cover as noted on page 4-2. The commenter asks why the county should be held to impervious area reductions. The commenter believes the county should be able to use their own estimates, as they are based on the most accurate data available.

Response: This is a legitimate issue that has no immediate solution. The reason for using the Bay land use/land cover is that the model will be used to evaluate progress toward the TMDL. If other tools/models are used, the results will not be comparable. Maryland is committed to working with the EPA management and modelers to bring state, local and federal land use closer together by the 2017 reevaluation. In the meantime, progress is going to be measured relative to current modeled loads, so nothing will be lost.

Comment # 653.

Commenter: C82

The commenter points out that if the strategies fall short of the 2017 goal, MDE proposes to increase MS4 permit requirement for Maryland's largest counties and the SHA to require installation of stormwater controls by 2017 on 40 or 50 percent of impervious surfaces in their jurisdictions that do not already have stormwater controls. The 2020 goal would increase to 60 or 70 percent, respectively, depending on the option selected:

- Establish a Chesapeake Bay Watershed Restoration requirement in the NPDES municipal stormwater permits, which is already written into draft NPDES MS4 permit;
- Require an implementation plan and schedule;
- Monitor and report compliance; and
- Continue to provide technical assistance, training, and outreach.

The commenter lists two comments:

- It would be unrealistic to propose retrofitting 20 percent of a county's untreated urban impervious area in a three year period when Frederick County currently struggles to meet a 10 percent impervious area reduction in a five-year period, from both a financial and organizational perspective.
- The bulleted goals are proposed in the current draft NPDES MS4 Phase I permits, which appears to be jumping ahead of schedule from the Phase I WIP.

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Response: The State recognizes the significant cost for stormwater controls and commits to convening a group of experts to identify the most cost effective practices to achieve retrofit requirements. For example, the State Highway Administration has estimated using the most cost effective practices may reduce its costs by as much as two-thirds. This will not relieve the stormwater sector from other restoration goals that have longer time horizons, but rather, is designed to allow the stormwater sector to meet nutrient and sediment goals sooner than would otherwise be financially feasible. Controlling costs by using alternative means of achieving nutrient and sediment reductions is an option available to local governments. These alternatives may include funding reductions from non-urban stormwater sources pursuant to State and federal trading programs.

Finally, MDE has formed an NPDES Stormwater Workgroup composed of local jurisdiction staff to research new and innovative water quality treatment practices. MDE's goal is to develop a robust group of urban BMPs that can be implemented to ensure that Chesapeake Bay TMDLs and water quality standards are met. Maryland's NPDES Stormwater Workgroup is eager to work with the EPA to help develop appropriate efficiencies for ESD to the MEP, stream restoration, coastal plain step-pools, and other urban BMPs that EPA has yet to assign efficiency values.

Comment # 654.

Commenter: C82

The commenter notes that the University of Maryland Extension at the Wye Research and Education Center will begin a project similar to Baltimore County's Rural Residential Stewardship Initiative for the Maryland Monocacy watershed expressly for water quality impacts. This project is based on the peer-to-peer education model and will feature a weekend workshop. Landowners will learn both afforestation and outreach techniques, and the workshop participants will be tasked with afforesting their own land and reaching out to others to do the same. The Natural Resource, Agriculture, and Engineering Service published a manual, *The Woods in Your Backyard*, and this information will play an integral role in the work in the Monocacy Watershed. The commenter (Frederick County) is unfamiliar with this project at the Wye Center and sent an email to Jonathan Kays who runs the Woods in Your Backyard program; he is also not aware of this program. Frederick County submitted a grant with the Woods in Your Backyard program to the National Fish and Wildlife Foundation but it was not accepted.

Response: Fredrick County should continue to pursue it and sounds like a good idea.

Comment # 655.

Commenter: C96

The commenter states that since 1985 more effective stormwater management requirements have been applied to construction activity in Maryland. With passage of the Stormwater Management Act of 2007 and MDE's application of environmental site design, new development will leave permanent, post development pollutant loadings that are equivalent to pollutant loadings from a healthy forest - significantly lower than loading from other urban and agricultural land uses. MDE has publicly acknowledged the need to address loading from other source sectors. In order for Maryland to reduce pollutants, thousands of state and local regulators, elected officials, and nongovernmental interest groups will have to move away from the disproportionate focus on construction activities that have defined previous efforts to reduce pollutant loading to the Chesapeake Bay. The change in focus is necessary because of the relatively small percentage of total pollutant loading that originates from construction activity in Maryland.

Response: All sectors need to do their share and to meet the allocations assigned.

Comment # 656.

Commenter: C96

The commenter notes that it is often stated that the urban sector is the only sector whose pollutant loads are growing. These statements are not supported by EPA's 5.3 Chesapeake Bay TMDL Model which shows that urban loading of nitrogen and phosphorous have declined and urban sediment loading increased by about 1,200 pounds despite nearly a 34,000 acre increase in urban area between 1985 and 2009. On a unit loading basis (pounds per acre of loading) urban land has lower loading for nitrogen, phosphorous and sediment. Both total and unit nitrogen and phosphorus loads are decreasing from each acre of land in both the urban and agricultural sectors and that, while sediment loads from the urban sector have grown slightly, the unit per acre sediment load have decreased from both the urban and agricultural sectors. Reductions in the urban loading rate are pronounced in the years since 2000 likely as a result of improvements to stormwater management technology and the increased percentage of development and redevelopment projects treating stormwater.

Response: This is most likely due to change as a result of how EPA defined low density urban land, rather than to any actual reduction in loads. This will be corrected in version 5.3.2 of the Bay Watershed Model. Results from this revision are due in July 2011.

Comment # 657.

Commenter: C106

The commenter states that TMDL pollution reductions will not be achieved without deep reductions from the agricultural sector. Farmland is the largest source of nutrient pollution in the Chesapeake Bay. According to the Chesapeake Bay Program, nutrient loads in the Bay from farmland have decreased, but not nearly enough to meet science-based limits.

The commenter notes that draft targets from MDE require agriculture to reduce nitrogen by 4.46 million pounds per year and phosphorus by 120,000 pounds per year. The commenter knows what measures would work to achieve this reduction, but those measures should be mandatory. An approach that is almost exclusively focused on voluntary measures and incentives has not worked.

Response: The referenced reductions are planned. There is clearly more pressure and more oversight to more effectively apply our existing approaches. However, the submitted WIP clearly outlined options and timelines for mandatory programs.

Comment # 658.

Commenter: C98

The commenter notes a consensus in the water sector, within EPA, among leading engineers, water and wastewater utility managers, and associations, that in order to protect and restore waters there is a need to integrate water supply, ambient and drinking water quality, wastewater, stormwater, groundwater, surface water, irrigated water and freshwater, evapo-transpiration, saltwater, and estuarial water into one holistic package called water. By putting water into categories, Maryland's WIP has largely missed pursuing a multi-media-mitigation strategy that is a necessary to bring back the functions and values of the bay and its greater watershed.

The commenter notes that transportation issues are integrally tied to overuse of land, increased stormwater, and transport of loadings, yet there is no recognition in the WIP of the need to align SIPs with WIPs or to require mitigation of road-based pollution with advanced road building techniques, or to require the replacement of cars and trucks with other forms of transportation including a European

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style integrated multi-modal system that subsidizes rail, bus, pedestrian and transit oriented development.

The commenter states that the broken water cycle for the Bay Watershed is well-documented. Large amounts of land is paved over, the Watershed's forest is reduced, thus disrupting the natural storage, treatment, and reuse of water. Agricultural lands are overloaded with chemicals and are often farmed in a way that supports loss of soil and the attendant nutrients into adjacent waters. Large amounts of water are withdrawn from surface and groundwater and then used only once, subsequently dumped into sewer pipes and sometimes combined with stormwater, often but not always treated and then along with large volumes of fresh wastewater often discharged miles away from their origin into other watersheds and into estuarine or ocean environments. Lack of stormwater infiltration and evapotranspiration have helped create urban heat island effect and in combination with climate change are exacerbating the peaks and valleys of flooding and drought and doing much more damage to the declining riverine and riparian zones that have not been buried under. Accelerated loss of biodiversity, chemical transport and loss of aquatic habitat in the ambient waters are matched by increased energy demands, loss of physical and psychological health and healing, increased morbidity and mortality, loss of IQ, lower graduation rates and higher jail rates in our cities and towns.

The commenter states that the WIP needs to recognize an expanded tool kit, innovation, and experimentation so that our Maryland communities can try new approaches to solving the multifaceted and interconnected problems within our subwatersheds and across the Bay-wide landscape and to allow for solutions that are appropriate at different scale:

- Site of building scale
- Neighborhood scale
- Watershed or Metro scale
- Basin Scale
- Global Scale

The commenter points out the response to climate change by pushing back on carbon release at all of these scales, but doing little in the way of dealing with global water commons issues or neighborhood or building scale water issues in the WIP. Green building is incorporating energy savings but doing almost nothing to address water conservation and efficiency and reuse. The WIPs are an opportunity to think deeply about the ways water is connected to everything and to take a multi-faceted approach to allowing these connections to be made in the form of tools which communities could get credit for supporting at all scale. In fact, not doing so sells the Maryland WIP short.

Response: In order to succeed within the given time frames, Maryland needs to stay focused on the reductions of nutrients and sediments. Although coordination on issues such as waster conservation or vehicle miles traveled may not be obvious, such coordination occurs on a daily basis with the state agencies.

Comment # 659.

Commenter: C98

The commenter states that the provision of wastewater services in Maryland is rooted in approaches and technology that was largely put into place in the 19th and early 20th centuries, that utilizes 20th century science and that does almost nothing to solve the 21st century problems. The false dichotomy that pits WWTPs with AWT including ENR versus failing 40 year old septic systems leaves out a large and growing group of sophisticated distributed, decentralized and non-structural techniques and

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technologies that are smarter, quicker and produce better water and other benefits for our communities and the bay. The absence of the WIPs acknowledgement of these systems and the over-focus on end-of- the-pipe ENR and sewerage up from the septic belies a lack of understanding of the hybrid and off-the-grid thinking that is gaining ground across the US and the world.

The commenter states that the energy sucking, chemically greedy, water wasting, air polluting, solid and chemical waste magnifying, and microbial and nutrient bearing traditional linear gray water big-pipe systems that are preferred by the WIPs are running to failure. Costs for ratepayers are escalating and the operations and maintenance are failing to keep up. Even in our most advanced systems, costs are skyrocketing and there is a growing knowledge that we cannot build our way out of the climate change, nutrient overloading and emerging chemical and microbial challenges that we face. The commenter (Clean Water Action) urges Maryland to support investment streams to go to hybrid and new ways of handling water at all scale and that they be integrated as much as possible with other social and economic goals such as green job production, walkable and livable neighborhoods, urban agriculture, alternative forms of transportation and energy production.

Response: Community septic systems and small “package plants” have been discussed and have been and will be used where appropriate. However, the Department’s experience with these has not always been positive and finding the funding and competencies for small communities can be difficult and inconsistent.

Comment # 660.

Commenter: C98

The commenter states that it is widely recognized that CSOs and SSOs contribute to the problems and dangers to local water quality and public health. Unlike WWTPs however the state must consider a plan for both control and eventual elimination of the unhealthy and antiquated CSO system. However, CSOs and SSOs and MS4 Systems are perfect opportunities to rethink how we do water in our cities and towns. Billions of dollars are on the table in Maryland that are currently slated to fix these problems the old fashioned way—creating waste, pollution and hard wiring a bad investment that the commenter (Clean Water Action) argues sub-optimizes that dollars spent instead of getting the biggest bang for the buck. The commenter asks where the support is in the Maryland WIP for new approaches to these problems.

Response: All Maryland CSO issues have been or are in the processing of being addressed. Many innovative approaches were suggested during the public process and have been included in the final submission. Agriculture in particular has been very innovative in their suggestions.

Comment # 661.

Commenter: C98

The commenter states that existing consent decrees and the process of reporting have had little effect in enforcing violations or structural upgrades and states the WIP should not only acknowledge this, but as with municipal and industrial wastewater systems should include a complete list of systems with timelines for review, repair work and eventual retirement. The draft’s proposed achievement and reliance on WWTP upgrades unfortunately depends upon nutrient load reduction credit trading, which should only be included as an option in very restricted circumstances, here or in any other respect of the plan. Mimicking and working with nature to address water management challenges and opportunities should be the first option, and only as a last resort to rely on trading which is targeted and sub-watershed specific.

FINAL

Response: Reductions from WWTP upgrades do not depend on credit trading but on actual retrofitting of plants to use more modern and effective technology. Consent decrees are tracked by the court and are showing progress.

Comment # 662.

Commenter: C98

The commenter states that, according to peer reviewed literature, phosphate rock stock is in severe decline and reserves may run out as early as 2030. The way we farm and treat sewage and do land management loses much of our naturally occurring phosphate into our ambient and underground waters. This is unsustainable both as a water quality problem but also for food production. Farmers have a vested interest in stopping the loss of phosphate and figuring out how to hold it on the land and how to close the loop for the purposes of being able to safely reuse nutrients.

Response: Farmers do have a vested interest in holding phosphorus on the land and keeping it out of the water. Unfortunately part of the problem on the eastern shore is excessive use of phosphorus containing manure that saturates soils and results in phosphorus leaching and runoff.

Comment # 663.

Commenter: C98

The commenter states that urban and suburban stormwater is the only major runoff to the Chesapeake Bay that has increased steadily over the years and that as a first step, the aggressive implementation of the Maryland Stormwater Act of 2007 and its regulations will push local jurisdictions and developers to implement environmental site design to the maximum extent practicable. In many instances, this will create opportunities for water re-use and other decentralized water management solutions that improve efficiency and conservation. Much can be achieved by addressing controlling growth, prioritizing funding infrastructure repair and upgrades for existing communities and by enforcing existing law. For example, outfalls throughout the state are becoming destabilized, a therefore need to be surveyed to see what shape they're in before new discharges are allowed. There are current outfalls that aren't functional and any kind of loading exacerbates existing damage and problems. In addition, setting a retrofitting requirement somewhere above 50 percent of impervious surface in the counties, while regulating more urban impervious surface through some type of stormwater management utility fee structure. The MS4 county and municipal permit system should establish high bench marks, identify long-term solutions and remediation methods and anticipate the control of future loads from development and growth. County and municipal MS4 permits should be based on watershed protective and restorative plans.

The commenter points out that over the past few years the environmental community, with the support of other concerned citizens' groups, has offered policy approaches to develop democratic processes and accountability for how the state makes future growth decisions. MDE should reexamine these policies and design new or improve on present standards for both commercial and residential growth to make sure we our stopping sprawl and not just slowing it. In addition, the WIP must enforce a specific standard requiring all new development and redevelopment in its design to implement regenerative stormwater conveyances. In addition these WIP regenerative stormwater conveyances for the significant reduction of sediment should be expressed in detailed plans along with a draft timeline.

Response: Maryland Department of Planning will lead the State effort to developing the Accounting for Growth Policies that will address these issues.

Comment # 664.

Commenter: C97

The commenter states that discrete, performance-based targets for nutrient and sediment reductions from all nonpoint sources to improve water quality, including all BMPs, should be required in the WIP, and assessments of those BMPs and reduction targets should be required to be conducted by independent third-party entities to assure effectiveness and proper implementation.

The commenter suggests that the WIP should include requirements to implement measures, including BMPs, throughout each waterway segment. These are necessary to achieve the nutrient and sediment TMDLs by a date certain to meet reasonable assurance expectations. The WIP should include detailed sanctions for any source that fails to meet the TMDL limits and two-year milestones. The primary proposed Federal punitive measure to address failure to achieve two-year milestones appears to be a further reduction in the waste load allocation for point sources. Point source controls are expected to achieve their allotted nutrient reductions by about 2012. It appears illogical and unfair to punish this sector if it meets the targeted caps while leaving nonpoint sources without any realistic and certain sanctions. It would be much more effective for the state to develop regulatory sanctions against nonpoint sources with assured enforcement.

Response: The milestones will provide the performance based targets. Failure to meet the milestones will be addressed on a case-by-base basis. Direction of federal measures at point sources is not intended to be punitive against sectors that are performing. Rather it is the only place where EPA has authority to provide pressure. The idea is that EPA pressure in this way will be so distressing, that States will do whatever is necessary to bring other sectors into compliance.

Comment # 665.

Commenter: C97

The commenter states that reducing agricultural nutrients and sediment loadings may be the immediate challenge as farm pollutants are the greatest source of loadings and the most cost-effective to reduce.

Response: All sectors need to do their share.

Comment # 666.

Commenter: C94

The commenter states that insufficient time has been granted to review the WIP plan.

Response: The model will be revised and strategies reviewed during Phase II.

Comment # 667.

Commenter: C90

The commenter states the WIP draft lays out management practices for reducing nutrient and sediment pollution in the urban, agricultural and stormwater sectors—the same conveyances for other chemical contaminants that pose a risk to the bay.

The commenter states that meeting TMDLs for nutrient and sediment runoff reduces toxic runoff including pesticides since as sediment includes pesticide sorb and nutrient loading includes pesticide loading. The commenter states mentioning this in the WIP provides important information regarding the benefit TMDLs for nutrients and sediment provide to reducing pesticide runoff.

FINAL

The commenter states addressing polluted stormwater runoff commonly transported through MS4s, and discharged untreated into local water bodies under the NPDES permit, reduces numerous pollutants including pesticides. The commenter states this benefit for reducing pesticide and other chemical pollutant runoff should be noted.

The commenter states the WIP should provide for a future adaptive management framework to assess whether increased risk to the Bay's living resources are due to other chemical contaminants to ensure that the state addresses a possible major problem.

Response: The purpose of the WIP is to provide reasonable assurance that the load and wasteload allocation in the TMDL will be met. Given the time constraints on developing the WIP, other issues will need to be addressed elsewhere. Furthermore, since no quantitative estimates can be developed, the utility of broad qualitative statements is minimal.

Comment # 668.

Commenter: C88

The commenter states the implications of this WIP are far-reaching to a small jurisdiction that lacks the resources to be able to truly understand the allocation process and provide useful input, much less fund strategies for implementation.

Response: There will be opportunities to better understand the tools and issues during Phase II. All that it will cost the jurisdiction is 1-2 days per month for one staff person to participate in county and regional meetings. The costs to implement will be in addition to that person's time, which is why it is well worth participating in the meetings.

Comment # 669.

Commenter: C91

The commenter states the WIP should more concisely address the roles of Federal government and multiple State governmental entities that must work together to achieve the targeted goals. The commenter states that MDE and EPA must provide clear delineation of load allocations to stakeholders (in addition to source sectors) and assume the responsibility for bringing all stakeholders to the table. The commenter states MDE and EPA must play an aggressive role in gaining agreement from all identified stakeholders regarding their assigned load reductions. The commenter states this is an incredibly important role to ensure the success of both Phase I and Phase II WIPs.

Response: By the end of the first quarter of 2011, detailed allocations will be available. The Phase II process for bringing stakeholders to the table is well into the planning phase at the end of December. The purposes of the Phase II meeting is exactly to gain agreement as described.

Comment # 670.

Commenter: C91

Regarding, page 5-22, subsection G, *Combined Sewer Overflows and Sanitary Sewer Overflows*, the commenter notes that Anne Arundel County has recently fulfilled its obligation under the Consent Order and is currently awaiting formal confirmation from MDE.

Response: Noted.

Comment # 671.

Commenter: C96

The commenter states that both the EPA model and Maryland's WIP determine future pollutant loading and required pollutant reductions using approaches that credit progress toward reducing pollutant loadings between 1985 and 2009. The idea behind the approach is a good but in practice urban areas have not been properly credited for reductions achieved on land that was converted from agricultural use to urban use between 1985 and 2009. The affect is significant. According to an analysis of the EPA TMDL model conducted for NAIOP by Wetlands Studies and Solutions, nearly half of the agricultural nitrogen load decrease from 1985 to 2009 is the result of land conversion, primarily conversion of agricultural land to urban land. Approximately 60 percent of the phosphorus and TSS load reductions result from land conversion to other uses rather than installation of agricultural BMPs. The result is that the full reduction in pollutant loading has been credited as progress made by the agricultural sector even though the acreage has been converted to urban use, the practices used to reduce the pollutants were completed as part urban developments and the pollutant loading that must be further reduced under the TMDL remains in the urban category. Maryland should take steps to rectify the credit issue for past progress and devise a method of tracking future conversion of land between the various land use categories in the model to ensure long term accuracy of progress toward sector pollutant cap loads.

Response: The EPA model determines future loadings. Maryland's WIP indicates how those loadings are to be achieved. Both urban and agricultural load estimates will modified in version 5.3.2 of the model available at the end of the first quarter in 2011. There will be a significant change to how low density urban land use is determined and to how manure excess is treated in the model. Land use conversion occurs on a daily basis. The states and EPA have agreed to use 2010 land use for model calculations.

Comment # 672.

Commenter: C109

The commenter expresses concern that since it has been shown that agricultural BMPs are the most cost effective way to reduce nutrients, that sectors that are more costly to address will press the Administration to readjust allocations. The commenter states this is unacceptable to the agricultural community. The commenter states that the action items within the agricultural sector are doable, they will still be difficult to achieve. The commenter expresses that their continued willingness to do their part should not be construed as a willingness to take on unreasonable demands. The commenter is concerned that the urban point and nonpoint sectors are seeing nutrient trading with agriculture as a way to reduce their obligation to reduce nutrient and sediment loss to the Bay. The commenter states that while nutrient trading may provide a source of funding for agriculture to apply additional BMPs on the land, it should not be seen as an alternative activity for the urban sector, but more of a supplemental activity as a last resort, with all other options being preferred.

Response: At this time the means to achieve greater cost effectiveness will be through mutually agreed to trades, not an arbitrary reallocation.

Comment # 673.

Commenter: C109

The commenter notes that the benefits of voluntary BMPs were not included in the Bay model. The commenter suggests that all BMPs need to be counted and given the appropriate credit in the Bay model, regardless of when they were installed.

FINAL

Response: Whenever they have been reported and documented, voluntary BMPs have been credited. Obviously, if neither the State nor federal governments are aware of implementation, they cannot credit it. MDE understands that MDA, using Conservation Tracker is working to rectify this.

Comment # 674.

Commenter: C109

The commenter (Maryland Grain Producers Association - MGPA) states that its goal through its sister organization is to improve farm viability by producing crops more efficiently and providing new markets for their crops. The commenter welcomes feedback from the Bay cabinet on research needs related to grain production that MGPA can support with grain checkoff funds for projects that will improve on farm nutrient efficiency and benefit the Bay.

Response: The information will be forwarded to the Bay Cabinet.

Comment # 675.

Commenter: C109

The commenter states that the best use of manure is land application under a nutrient management plan using sound science. The commenter opposes the state funding alternative uses, especially those that are untested and untried until such time as a full analysis is made on the quantity of litter in excess of the available acreage with phosphorus needs for crop uptake.

Response: There have been several studies indicating that on about 5 eastern shore counties there is an excess of manure. Over 40,000 tons of manure are already being transported from areas where excess manure is generated. Where there is no excess, Maryland agrees that land application is appropriate.

Comment # 676.

Commenter: C99

The commenter believes in order for the WIP to have realistic goals of reducing pollution, EPA and Maryland will need to join together to apply existing regulations evenly and have the resources to enforce violations when they occur. The commenter states rules and regulations are not always applied to the wealthy and powerful landowners, in particular, developers who hide as farmers. The commenter states the agencies should be given the authority and resources to override the decisions of a few, whose interests are not aligned with regulations but instead the influence they can garner by helping the wealthy and powerful.

The commenter states he has challenged MDE and the Planning and Zoning of Kent County. The commenter states these organizations have enabled one of the County's wealthiest landowners in his attempt to subdivide and develop a parcel situated within the critical areas. The commenter notes the original plan involved the filling in of wetlands to create 3 waterfront lots in addition to other parcels within the 1,000 foot buffer. The commenter expresses the plan alone is counter intuitive, but continues to progress. The commenter notes that to-date this wealthy landowner has filled in critical areas and MDE and the County have failed to respond to the violations and proceed with any enforcement. The commenter notes that Kent County has limited resources and this coupled with a lack of enforcement is a recipe for further and abusive violations.

The commenter expresses for the WIP to be effective, regulations should be applied evenly to all residents and the double standard that currently exists should be eliminated.

FINAL

Response: Maryland cannot comment on such specific cases in this venue. Please contact the appropriate Department directly.

Comment # 677.

Commenter: C101

The commenter notes that the draft WIP calls for reductions in pollutant loading from urban regulated and urban non-regulated areas and that the difference is between point and nonpoint source (i.e. permitted and non-permitted sources of runoff). The commenter believes that this is not a sufficiently defined or refined distinction. This is because it lumps urban areas with combined sanitary and storm sewer systems which in many cases are nearly 100 percent impervious with little or no forms of storm water management with properties or buildings that have been constructed since the introduction of storm water regulations in the 1980s. The commenter believes that at least one additional category of measurement needs to be added in order to correctly assess the impact of new projects.

Response: Regulation of non-regulated urban land was dropped in the final submission, because benefits were not significant. However, the definition of non-regulated urban land is any area not under a Phase I or Phase II permit.

Comment # 678.

Commenter: C101

The commenter notes that the draft WIP states that significant reductions in nitrogen (33 percent) and phosphorous (38 percent) pollution were achieved while accommodating a 29 percent increase in population. The commenter states there is no specific data in the WIP that indicates how this was achieved; however, a report prepared by WSSI (*Analysis of Pollutant Loads from Agricultural and Urban Sectors* based on the Phase 5.3 Chesapeake Bay Community Watershed Model August 20, 2010) states that “Nearly half (48.4 percent) of the agricultural TN load decrease from 1985 to 2009 is the result of land conversion of agricultural land to urban land. The commenter notes approximately 60 percent of the TP and TSS load reductions result from land conversion rather than BMPs.” The commenter compared this data with information available from the U.S. Census Bureau and MDA. The commenter chose three western shore counties that have experienced significant population growth (Anne Arundel, Montgomery, and Prince George’s). Since 1997 the commenter found these three counties have seen an increase in population of nearly 200,000 while farm acreage has dropped from 164,963 acres to 133,862 a decline of nearly 18 percent based on Census of Agriculture, NASS, Maryland Field Office. On the eastern shore counties of Caroline, Dorchester and Talbot population has increased by approximately 6,500 while agricultural acreage has increased from 346,132 acres to 373,467 acres. The commenter cites a recent report released by the U.S. Geological Survey (The Baltimore Sun, “Federal Report faults farmers in bay cleanup”, October 27, 2010, page 3) which states that water quality in the Choptank River (bounded by the above eastern shore counties) has worsened. The commenter suggests that such data would seem to provide credibility to the WSSI report conclusion. If this is indeed the case, the commenter suggests the underlying assumption on how water quality improvements have been achieved to date needs to be re-examined. The commenter recommends that a much greater emphasis needs to be devoted to analyzing how agricultural lands can truly reduce the impact of their activities on the Bay Watershed and a greater percentage of the improvement in water quality achievement needs to be assigned to the agricultural sector.

Response: The referenced information has been a concern, and in response to EPA comments, there were significant changes to the agricultural components of the WIP.

Phase II Concerns

Comment # 679.

Commenter: C88

The commenter states a draft Phase II WIP by June 2011 and a final by November 2011 is an unrealistic and irresponsible timeline. The commenter suggests this timeline does not allow enough time for local governments to adequately participate, particularly when local governments are facing all new elected officials and in an economic downturn.

Response: Comments on expectations for Phase II will be taken into account as the State agencies develop plans for Phase II. This comment response document can only address Phase I in the context of developing a final submission for the TMDL.

Comment # 680.

Commenters: C51, C59

The commenters state that the proposed timeline for the Phase II WIP, assuming a draft WIP by June 2011 and final adoption by November 2011 may be inadequate to provide all local governments in the State with adequate input into the process. Moreover, it is difficult to understand how the need for changes to the Phase I WIP implementation strategies can be determined when the schedule for adoption of the Phase II WIP follows so closely in time.

Response: See response to comment 679.

Comment # 681.

Commenters: C88

The commenters state that the proposed timeline for the Phase II WIP, assuming a draft WIP by June 2011 and final adoption by November 2011 may be inadequate to provide local governments the opportunity to participate, especially given newly elected officials and the economic downturn.

Response: See response to comment 679.

Comment # 682.

Commenter: C92

The commenter notes that Phase II load allocations may not be available until late spring of 2011 and is concerned that will not allow adequate time for the preparation of a draft Phase II WIPs by June 2011. The commenter requests that the timeline for the Phase II WIPs be adjusted to allow adequate time for plan preparation once the allocations are developed.

Response: See response to comment 679.

Comment # 683.

Commenter: C57

The commenter states that the timeframe to develop the Phase II WIPs is too short. The time line should be extended at least until September 1, 2011. This will result in a much better product and still provide time for EPA analysis, public comment and finalization by the end of 2011.

Response: See response to comment 679.

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Comment # 684.

Commenter: C95

The commenter, Montgomery County, has a required timeline for implementation plan is set in their MS4 permit, which provides that a year after EPA approves the plan, they have one year to show WLAs in the MS4 permit area will be met. The timeline in the MS4 permit differs from the State's proposed timeline to meet Bay goals. The Phase I WIP indicates that locally-specific allocations will be available in January and that detailed Phase II plans must be developed by June 1, 2011, however EPA cannot provide locally-specific allocations until March 2011 and it is not possible to develop detailed WIPs in three months. Nor is a three month time period consistent with the MS4 permit's requirement of one year after EPA approval.

Response: Maryland has requested an extension of the EPA timeline. A decision on this request will be made in January.

Comment # 685.

Commenter: C108

The commenter expresses concern regarding the WIP including timing, technical and financial resources, and proposed strategies for reducing. The commenter notes that due to problems with the Chesapeake Bay Model, the load limits, necessary for Phase II WIP development, will not be available until April or May 2011 draft WIPs are to be submitted by June 1, 2011. The commenter believes this timeframe is unreasonable, does not allow time for County departments to coordinate a united approach and does not allow for public participation, which the County considers extremely important to the planning process and good government. The commenter proposes that nine months is the minimum amount of time necessary for to develop a proposed plan, and hold public forums and public hearings.

Response: See response to comment 684.

Comment # 686.

Commenter: C26

The commenter recommends extending the time afforded to development of the Phase II plan because of its importance and impact on local governments. Phase II needs to identify an adequate supply of offset generators. This may be difficult in the timeframe allotted.

Response: See response to comment 684.

Comment # 687.

Commenter: C40

The commenter (city of Frostburg) notes that there is a heavy learning curve required in a short period of time and smaller municipalities will need aid from County staff to address the mandates that will appear with Phase II.

Response: The State cannot speak for County staff, but the State hopes that through local and regional meetings, and with help from the State, everyone will be able to accomplish what is needed.

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Comment # 688.

Commenter: C26

The commenter notes that it is imperative that local jurisdictions be involved in the classification areas for development into Low, Moderate and High per capita loading categories during Phase II.

Response: See response to comment 89.

Comment # 689.

Commenter: C26

The commenter states that the suballocation process needs to have the ability to allocate between federal, state, county, and municipalities that are geographically enclosed within a county boundary.

Response: The more detailed suballocations referenced by the commenter will be part of the Phase II WIP process.

Comment # 690.

Commenter: C26

The commenter asks what the constraint was that prohibited separation of NPDES-regulated stormwater loads as described on page 1-3of the WIP. Will this constraint exist in the development of the Phase II WIP? If so, how will it be addressed?

Response: The constraint is adequate resolution in land use. This concern will be at least partly resolved in Phase II.

Comment # 691.

Commenter: C26

The commenter notes that agricultural sector two-year milestone goals are being set by MDA, not by a local agency such as the Soil Conservation District. It is imperative that the WIP includes local soil conservation districts in the development of the Phase II WIP.

Response: MDA will work closely with the Soil Conservation Districts.

Comment # 692.

Commenter: C28

The commenter asks how developed areas built before 1985 that drain into post-1985 facilities will be classified and if these will be credited toward watershed specific TMDLs.

Response: If development before 1985 is managed by a stormwater BMP that meets State requirements for water quality management, then the land area will be classified as controlled and credited toward watershed specific TMDLs.

Comment # 693.

Commenter: C28

The commenter asks several questions regarding BMPs:

- Will there be a list provided of acceptable BMPs tailored to specific watershed TMDLs?
- Will credit toward specific TMDLs be given for ongoing environmental restoration efforts such as stream restoration and reforestation projects?

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- The City makes significant investment of resources in streetsweeping, a very effective means of improving water quality. How can we get credit for that in the WIP process?
- The commenter asks if there will be a streamlined means to consider new BMPs to meet TMDL requirements?

Response: Information on BMPs in the model are provided by EPA on the Chesapeake bay website at <http://www.chesapeakebay.net/watershedimplementationplantools.aspx?menuitem=52044#2>. Information on the website includes a list of BMPs currently included in the model, such as street sweeping, and includes their respective percent effectiveness. Several BMPs, such as forested buffers, vary on hydrogeomorphic regions; there are no BMPs that vary on specific watersheds. There is a process to get new BMPs added to the list. Please contact MDE if you would like to suggest new BMPs to be considered for the model.

Comment # 694.

Commenter: C34

The commenter encourages MDE and Anne Arundel County to develop an even stronger and certainly more detailed Phase II WIP than the Phase I WIP. The commenter's overall concern is that the success of the WIP depends on Planned Activities being translated down to enforceable State and County regulations, many requiring revised legislation. Even more important is that County departments must be willing to enforce these regulations and eventually the legal system must support the government agencies to ensure these regulations have the "teeth" necessary to accomplish the WIP's goals.

The commenter and the Severn River Associate are already working towards the goals of the WIP to reduce pollutants entering Severn River, yet they recognize that more is required than voluntary efforts to achieve the goals. They offer to help the appropriate agencies as the Plan is further detailed and implemented.

Response: The purpose of Phase II is to have time to get into details and provide greater geographic specificity.

Comment # 695.

Commenter: C40

The commenter, a small municipality, states it must get credit for its and other regional efforts and locally developed and implemented plans so that a fair allocation of effort and cost is applied to the WIP and that the State "play fair" with local stream mandates/enforcements, that may overlap with the WIP, while municipalities are focused on Bay restoration efforts.

Response: Credit will not be given for plans, but will be given for all implementation that is reported and verified.

Comment # 696.

Commenter: C33

The commenter notes that it will be challenging reconciling State and local goals for agricultural land preservation with the need to reduce agricultural loads. The commenter requests additional description of how Maryland proposes to address this issue from the broader planning perspective.

Response: Agricultural loads can be reduced on agricultural lands that are preserved in perpetuity. The WIP includes strategies for achieving the agricultural target load on existing agricultural lands, whether protected in perpetuity or not.

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Comment # 697.

Commenter: C33

The commenter states that by waiting until Phase II to refine land use data, it may not be too late to adjust allocations between sectors, but it will be too late to adjust total reductions needed. The commenter suggests the state and local jurisdictions work together to refine the land use data before the final allocations are set.

Response: Unfortunately, there simply isn't time to refine the land use data before the final allocations are set.

Comment # 698.

Commenter: C36

With increasing expectation placed on county and town staffs who oversee WIP and TMDL initiatives, funding is essential in covering the cost of this additional workload.

Response: Agreed, the question is where it will come from: federal, state, county, local fees or private fees.

Comment # 699.

Commenter: C59

The commenter asked if it is assumed that problems arising from the expedited preparation of the Phase I WIP can be corrected during the Phase II WIP process, what assurance exists that EPA will allow changes to be made when there appears to be no statutory requirement for EPA to allow such changes.

Response: EPA has agreed to allow such changes, but there will need to be another public comment period.

Comment # 700.

Commenter: C59

The commenter asks how it can be determined what implementation strategies from the Phase I WIP will or will not work without more time to objectively evaluate and assess their impacts.

Response: There is extensive knowledge based on past practice as to what works and what doesn't. Further, adaptive management provide flexibility and responsiveness as the process moves forward.

Comment # 701.

Commenter: C57

The commenter notes that local jurisdictions and all stakeholders need to be involved at the earliest possible time in regards to developing an offset program described on page 3-9. This could potentially be a difficult program to develop without the involvement of the development community. The commenter requests that outreach to the development community should be initiated early in the schedule.

Response: The State has already met several times with the development community. Everyone will be welcome at the local meetings.

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Comment # 702.

Commenter: C92

The commenter questions how future loads projection will be allocated among the jurisdictions for the Phase II WIPs. The commenter request that the following questions addressed and that the answers be available soon:

- Will future loads be based on growth projections from local General Plans?
- Will a jurisdiction be penalized if it accepts its fair share of growth versus setting strict growth controls and deflecting the problem elsewhere?
- With increased economic development and housing from Fort Mead, what happens as Howard County approaches its ENR capacity?
- Can the commenter shift emphasis to reductions from stormwater management, septic system upgrades and agricultural BMPs?
- Will nutrient trading, with its unknown procedures and costs, be a viable option? More information on nutrient trading is needed.

Response: See response to comment 89.

Comment # 703.

Commenter: C77

The commenter states that the phase II WIP should detail the entity responsible and timeline, for specific practices and how much it is going to cost, and if possible note the funding source. Without specific, enforceable, time-sensitive implementation detail in the difficult areas, it is likely there will be less action and accountability.

Response: Phase II will result in fairly detailed plans.

Comment # 704.

Commenter: C88

The commenter notes that MDE has publicly stated (and as the WIP clearly indicates), that Phase II can be used to refine and modify TMDL allocations that were established in Phase I. Unfortunately, there is no guarantee that local governments' comments will be addressed through this process; furthermore, even if MDE agrees to make changes, EPA is not committed to incorporating the modifications: "EPA may allow states to revise the TMDL allocations...subject to public review."

Response: Local governments are strongly encouraged to work with State to develop Phase II plans. Additional time has been requested to allow for state-local discussions to take place. As long as revised allocations meet water quality standards and offer an equivalent or higher level of assurance of achievement, EPA will allow revisions.

Comment # 705.

Commenter: C88

The commenter states that the WIP does not provide any flexibility for individual counties to meet desired goals. The commenter cites that soils, topography, development costs, development pressure, etc. vary tremendously among Maryland jurisdictions. The commenter suggests that MDE work with local governments to tailors these provisions, thus facilitating the greatest levels of reductions in the most cost-effective manner. The commenter believes targeting reductions by sector is not sufficient and that MDE needs to address geographic, economic and morphological conditions unique to each

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county. The commenter believes the final WIP needs to provide for flexibility among individual counties.

Response: Phase II is about addressing geographic, economic and morphological conditions unique to each county. More information on the process will be available at Maryland Association of Counties (MACO) and at meetings through January and into early February, 2011 that will demonstrate flexibility at the local level.

Comment # 706.

Commenter: C95

The commenter requests that the State continue to provide staffing and technical resources to assure coordination across jurisdictions and across sources, consistent with the two WIP pilot projects in Anne Arundel and Caroline counties. The State's leadership was necessary to bring all sources (regulated and non-regulated) together and keep discussions going on how to identify practices and programs that when put together will meet the TMDLs. The commenter, Montgomery County, has no authority to convene or to lead development of watershed-based implementation plans that require the participation of other permitted and non-permitted sources.

Response: The State has plans to continue to use the model developed with Anne Arundel and Caroline Counties.

Comment # 707.

Commenter: C108

The commenter supports efforts to maintain and improve water quality in local streams, the Patuxent River, and the Chesapeake Bay. The commenter states the Calvert County's Comprehensive Plan includes many policies and actions that would protect and improve water quality. The commenter notes that two of their three largest WWTPs use land application after pretreatment and the third is upgrading to ENR. All future sewage treatment plants must use land application. The Board of County Commissioners has set a build-out goal not to exceed 37,000 households and has made zoning changes to achieve that goal and it is the only county to have set such a goal. The commenter asks if the counties will receive credit in the development of the Phase II WIPs for previous actions.

Response: Previous implementation actions can receive credit when reported and verified. Exemplary actions like the zoning described won't receive credit for reductions, because they don't actually reduce loads. However, that is a perfect example of how to reduce future costs and implement the accounting for growth portion of the WIP.

Comment # 708.

Commenter: C53

The commenter states that it is not clear how much flexibility (such as the ability to reallocate among different source sectors), local stakeholders will have in developing detailed local implementation plans. The commenter suggests that EPA and the State will need to allow maximum implementation flexibility for local governments.

Response: There will be significant flexibility, consistent with meeting local water quality standards as well as Bay standards.

TMDL and Model Comments

Comment # 709.

Commenters: C17, C19

The commenters are concerned that the entire WIP is based on incomplete and inaccurate data in the Chesapeake Bay model. They state that until EPA corrects the model so that it is accurate, the entire TMDL and state WIP process is flawed. Just like building a house on a flawed foundation is sure to cause the house to fall, building a regulatory program based on a flawed foundation is sure to cause the program to collapse. They feel that the state of Maryland must continue to urge EPA to use a complete and accurate model, including the use of farm data for environmental practices not installed with government cost-share programs.

Response: The commenters are confusing two issues: the model accuracy and the data that it acts on. The model has undergone several scientific and technical reviews by scientists and engineers familiar with models and determined to be adequate for the use to which it is being put. Further, the WIP only addresses the first 70% of what needs to be done, and the model is not likely to be off by 30%. The data for voluntary practices is not a model problem but is a data problem. It is being corrected by MDA using conservation tracker. When the data are available, they can be credited to the agricultural sector. The process is not flawed; in fact it is self-correcting because as additional BMPs are verified they can be credited.

Comment # 710.

Commenters: C17, C19

The commenters strongly encourage the state of Maryland to insist that EPA include in the model already existing water quality practices, such as heavy use area pads, that EPA does not include. Millions of dollars have been provided by USDA to install these best management practices and EPA's enforcement personnel look for pads on CAFOs, yet EPA's TMDL section refuses to include these positive contributions in the model. The state of Maryland needs to make sure they are included.

Response: Practices such as those referenced by the commenter can be included in the list of creditable BMPs once the efficiencies are determined and validated.

Comment # 711.

Commenter: C18, C81

The commenter states that the Chesapeake Bay Program model uses a blended potential yield for crop uptake rates and that Maryland crop yields are 15 to 30 bushels higher within the 5 basins. The Bay Program crop yield is 109 bushels/acre and Maryland average crop yield is 130 bushels/acre. He notes that the Bay Watershed Model use of 109 bushel/acre crop yield drastically underreports Maryland's actual nutrient crop removal.

Response: MDA has had discussions with the Bay Program about this issue. MDA is preparing information for the Bay Program. This may not lead to a change in the current model but a post BMP to potentially reduce loadings on a county by county basis.

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Comment # 712.

Commenter: C62

The commenter states the Bay model is not accurate and needs to properly reflect the work that agriculture has done. For example, there are many BMPs in place, not on record, that farmers voluntarily put into practice. These BMPs need to be documented and made a part of the Bay model. Additionally, Maryland crop yields are 15–30 bushels per acre higher than the Chesapeake Bay Program model yields. Maryland potential nutrient loss would be decreased if the correct data is included in the model. The commenter states that accurate data is important.

Response: See response to comment 709

Comment # 713.

Commenter: C26

The commenter notes that there is currently no method to directly relate observed (measured) water quality, biological, and physical monitoring results to waste load allocations determined by a TMDL as seen on page 2-10 of the WIP. The TMDL load allocations are empirically derived, and usually at a different scale than the monitoring programs required under the MS4 permit.

Response: Measured water quality data are used to calibrate the model. The calibrated model is then used to determine the loads from each sector. The allocations for each sector are then determined based on a stated policy or methodology.

Comment # 714.

Commenter: C26

The commenter notes that nutrient reduction from impervious surface treated is highly variable and depends on the BMP type. The commenter asks how the percent impervious treated is translated to nutrient reduction.

Response: The nutrient reduction from impervious surface and BMP type is averaged across numerous studies. The projected efficiencies are then reviewed and approved by a workgroup of experts in the field.

Comment # 715.

Commenter: C26

The commenter states that the Maryland Association of Conservation Districts is on record saying that Maryland crop yield is higher than the Chesapeake Bay Program model has incorporated. If the correct data is included in the Bay model, Maryland potential nutrient loss would be decreased. Using the correct data in the Bay Model is important and should be a priority stated in the Phase I WIP.

Response: The option appears in the Maryland WIP as the first contingency should the current plan fail.

Comment # 716.

Commenter: C27

The commenter quotes Dr. Nancy Rabalais of the Louisiana Universities Marine Consortium, “I don’t know what a normal amount of nitrogen is.” and the commenter argues that the same is true of most commonly found substances in the nation’s waters, specifically that nobody knows what is “normal” water quality. The Clean Water Act defines pollution as any alteration to the integrity of water caused

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by human activity. The commenter states that the Chesapeake Bay Foundation assesses the Bay's water quality by comparing it to an imaginary standard, namely the condition of the Bay as it is conjectured to have been before the arrival of Europeans to the continent. Under the Act, the EPA has had 30 years to develop the data necessary to establish meaningful TMDLs. This has not occurred. Rather than address this shortcoming in a scientific manner, what we face is the embedding of speculation and assumptions into computer models, or more accurately, simplistic spreadsheets.

The commenter has seen the model and has adopted a Water Resources Element as part of the Community Comprehensive Plan, which they state is an unfunded mandate. Carroll County, in partnership with the eight local municipalities, hired a consultant to do an analysis of water issues including water quality and learned how inadequate existing TMDL models are. The commenter states he is not alone in thinking these models will become "black boxes" producing unscientific results and of concern is the potential for unintended consequence and the lack of meaningful opportunities for the normal checks and balances of science like objective, third party peer review.

Response: A "normal amount of nitrogen" is the amount that will allow the water quality standards for dissolved oxygen and clarity to be met. Because a consultant got a different answer than that given by the Bay Model does not mean that it is inadequate. Numerous local TMDLs have also been completed, publicly reviewed, and approved by EPA since 1996.

Comment # 717.

Commenter: C28

The commenter suggest that TMDL allocations should not be finalized until the WSM model update process is complete so that the projected benefits will be accurate and local governments do not waste scarce resources doing analysis and making decisions twice.

Response: That is not possible under various legal agreements. However, the path forward for the near term is clear, regardless of ultimate model results. The revised model results are expected at the end of the first quarter of 2011. Until then, localities will need to develop 2012-2013 milestones, determine staff needs, funding strategies, and geographic priorities.

Comment # 718.

Commenter: C29

The commenter represents several organizations. The commenter notes that 1) EPA lacks authority to approve, disapprove, or unilaterally change watershed implementation plans; 2) EPA cannot require states to take specific implementation measures; 3) EPA's threats of consequences overstate EPA's authority; and the CWA does not provide EPA with authority to establish the draft TMDL. The commenter and the organizations she represent urge that the state of Maryland question EPA's claims of authority over the Chesapeake Bay TMDL and state WIPs. Maryland is the only entity vested with the needed authority to address all sources of nutrients and sediments in Maryland. They urge the State to use its authority to develop cost effective and practicable measures to make further progress toward improving water quality in the Chesapeake Bay.

Response: Thank you for your comment. Maryland cannot respond for EPA on these issues which do not comment directly on the WIP.

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Comment # 719.

Commenter: C40

The commenter states that EPA must be active in requiring neighboring Bay states to comply with their representative WIPs so that a level playing field can exist within the Bay watershed to avoid further damage to the economy. Revenue needed to pay for implementation will likely come from property tax and income tax sources. If development ceases and local incomes are further taxed, the burden will be disproportionate in the commenter's area.

Response: EPA, by its published intent for backstops, made that clear.

Comment # 720.

Commenter: C43

The commenter notes that the WIP is based on initial allocations because the model used by EPA is undergoing revisions, which is likely to influence the distribution of loads among sectors. The assumptions used in the model have not been evaluated by the local governments for accuracy and agreement and it appears that Maryland is working with EPA on the model. The commenter suggests that Maryland and EPA are not working with local governments, which have local knowledge and feels that local governments are ultimately responsible for meeting the pollutant load allocations assigned and should have the opportunity to verify the model assumptions.

Response: Unfortunately, the Bay model needs to use land use and land cover that are consistent across the entire watershed. This means that it will have neither the best resolution nor greatest accuracy possible. Nevertheless, these are the constraints that everyone must work within.

Comment # 721.

Commenter: C46

The commenter points out that the accuracy of the model has been questioned as well as the ability of the model to move forward with new research and technology. The state and stakeholders need to work harder and make sure that the most accurate numbers, based in science, are being using and revisit the numbers often.

Response: See response to comment 709.

Comment # 722.

Commenter: C33

The commenter requests an explanation be added to the WIP as to why the numbers on the tables on pages 4-2 differ between federal and local data. It seems that the estimates would be more relevant if local data is used, assuming it is more complete or detailed than the federal data. The commenter suggests the state consider how local data may be incorporated to the model in a useful manner to provide a better estimate of local impacts and reductions. The commenter understands that the model is complicated, but the results and estimated reductions have significant impacts on local jurisdictions and property owners.

Response: The commenter draws attention to the discrepancy between EPA Model data for urban land use and the State or County urban land use estimates in acres as illustrated in Table 4.1 on page 4-2. The discrepancy can be attributed to the source data used in the development of each land use dataset. The EPA Model land use data is derived from satellite imagery at a thirty by thirty meter pixel resolution. This satellite imagery is used to produce a spatially oriented land cover dataset.

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Each pixel in the dataset represents the dominant land cover type picked up by the satellite within the cell. The classification of each pixel is based on the analysis, training, and processing of the cell's reflectance properties in comparison to other cells and known areas of particular land cover types. This land cover dataset is then altered outside of a spatial context, via the incorporation of agricultural census data, to produce a final tabular land use dataset. Thus, the final land use dataset is, by its nature, very generalized. Local land use data, in contrast, is often derived from aerial photography, whereby urban features can be directly digitized and quantified. For instance, the exact outlines of buildings, roads, sidewalks, etc. can be captured. State land use data from the Department of Planning uses a combination of satellite imagery, aerial photography, and tax parcel information; however, it also has a minimum mapping unit of 10 acres. Due to the different methods of capturing and representing the data, there are significant differences in resultant acreage. For consistency across the Chesapeake Bay Watershed, Maryland will demonstrate progress to meet the target load reductions using the EPA Model data. It is important that the EPA model land use be consistent amongst all jurisdictions, which is why a generalized approach to land use development was necessary, since not all localities have the same amount of detail in their land use datasets and the same developmental methodologies. Many localities have the type of detailed land use datasets described above, but many do not. Furthermore, the development of a land use dataset for the EPA model at the same level of detail as the land use datasets of many localities, based on a similar approach, is simply not feasible across a vast geographic expanse, such as the bay watershed, due to time and resource constraints.

It is worth noting that in Spring 2011, the Bay Program intends to update the EPA Model by recalibrating the model data and Maryland anticipates a refinement in the acreage of urban land use data. The result will lead to a closer estimate of urban land use data between federal, state and local estimates. It will also be possible during the Phase II Watershed Implementation Plan process to address local versus federal estimates of urban land use on a case by case basis.

Comment # 723.

Commenter: C33

The commenter notes that the WIP does not indicate if the transport factor in the Bay model accounts for reservoirs located between streams and the Bay and request this be clarified.

Response: The effect of the reservoirs is captured in the calibration and is clearly seen for phosphorus and sediments.

Comment # 724.

Commenter: C33

The commenter states that it would be beneficial if the Bay model is made available to local jurisdictions to help them to monitor and track progress and to make adjustments at the local level. It would help to customize data at the local level to provide results that are more indicative of progress by accounting for practices and capacity from incorporating local data such as land use and septic systems. The commenter suggests the local data would be shared to be incorporated into regional and State monitoring.

Response: The Bay model itself needs a platform and expertise not commonly available at the local level. However, MDE has funded an "online tool" that will enable local jurisdictions do exactly as suggested. It should be available by about March.

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Comment # 725.

Commenter: C33

The commenter suggests delaying the adoption of the TMDL until the completion of both the Phase 1 and Phase 2 WIPs. The ability of a local jurisdiction to even fund all of the measures should impact the timing or other relevant portions of the TMDL before it is officially adopted. The commenter notes that it will be difficult to determine feasibility without source sectors allocations and what options the local jurisdictions could use without cost and feasibility information.

Response: Delay is not possible. Discussion of funding will be part of Phase II.

Comment # 726.

Commenters: C48, C49

The commenters provided expansive comments regarding the EPA TMDL. These comments are part of the official EPA Docket (EPA-R03-OW-2010-0736) and are not repeated here.

Response: Noted.

Comment # 727.

Commenter: C87

The commenter states that the timeframe set by EPA have decreased the opportunity for public comment by interested parties and make it difficult to fully assess to potential impact on the development industry. Future time constraints for Phase II implementation will make it difficult for stakeholders to adequately plan and prepare for implementation. The Chesapeake Bay TMDL proposal process imposes an unprecedented intrusion by the Federal government on the States to effect the clean up without necessary funding. It is imperative that the TMDL is done in a fair and equitable manner.

Response: An extension for Phase II has been requested. The extent of federal funding over the duration of Phase I and Phase II has not yet been determined.

Comment # 728.

Commenter: C87

The commenter states that given the acknowledged flaws in the current Bayshed model makes the Maryland WIP inaccurate at its inception. EPA should delay issuance of this rule until the model can be revised and the Bay States have the opportunity to review and concur with revisions.

Response: Corrections will be made and addressed in Phase II.

Comment # 729.

Commenter: C87

The commenter notes that on page 2-10, the WIP states, "In 2008, based generally on the 2004 Tributary Strategy, Maryland established a Chesapeake Bay restoration goal to retrofit 40% of existing developed lands, or approximately 416,000 acres, by 2020. This acreage estimate is based on the 5.1 version of the Chesapeake Bay model. To meet this schedule, approximately 40,000 acres need to be restored by 2011."

According to the Phase 5.3 Chesapeake Bay model (released 6/14/2010), Maryland's total developed land was 797,972 acres; a restoration goal of 40 percent would require the restoration of

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approximately 320,000 acres by 2020 and would therefore result in a 23 percent lower nutrient savings than calculated by the draft WIP. The commenter notes that EPA is currently revising its methodology for determining impervious and pervious urban areas. The commenter points out that EPA currently estimates impervious surfaces Bay-wide will increase by a factor of 2.3, and pervious surfaces will increase by a factor of 3.1 when the Chesapeake Bay Model is released in 2011. The developers of the draft WIP should understand the potential implications of such a drastic increase in the impervious and pervious surfaces within the model.

Response: The EPA is not revising its methods for pervious and impervious areas, rather it is re-defining low density urban areas. It is understood that version 5.3.2 may make significant changes and that is why allocations can change in Phase II, after a public process.

Comment # 730.

Commenter: C83

The commenter requests that the Bay model reflect all conservation practices used by Maryland farmers. The commenter states that the only BMPs installed with State cost share funds are being credited. A comprehensive assessment of voluntary farm practices is essential to credit all water quality improvements occurring on farms.

Response: See response to comment 709.

Comment # 731.

Commenter: C81

The commenter is concerned that the Bay model is in “lockdown” until 2017. The commenter requests information about how these unfunded “on-farm assessment of voluntary practice” BMPs are going to be included, how values will be assessed for practices that do not meet existing standards and what the timeframe is for this activity.

Response: The addition of types of practices or extent of implementation of practices is not locked down. The types of practices, efficiencies of practices or extent of practices are inputs to the model, not the model itself. There will be no changes to the model that will affect the TMDL until 2017, but practices, efficiencies and implementation can obviously change or progress couldn't be estimated.

Comment # 732.

Commenters: C55, C81

The commenters state that sediment reductions for cover crops are under accounted for in the current Bay model and should be based on reductions documented by the use of the Revised Universal Soil Loss Equation, Version II as documented in Soil Conservation and Water Quality Plans.

Response: Such things are reviewed by workgroups and then the Chesapeake Bay Scientific and Technical Advisory Committee.

Comment # 733.

Commenter: C59

The commenter requests information to understand what ambient base load assumptions are being used to calculate the TMDL. If it is assumed that all ambient or natural base load calculations are based on a natural undeveloped or unaltered state, irrespective of long-standing historical development patterns, then the potential cost burden of mitigating older and historic urban areas developed prior to modern stormwater requirements will be much greater than for more recently

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developed areas, much of which constitutes the low density, land intensive patterns commonly associated with sprawl. Since Smart Growth principles promote higher density development concentrated in long-established urban areas, a TMDL load limitation requirement that encourages or incentivizes alternative patterns of development would seem contrary to Smart Growth principles. The commenter requests that some form of an ambient base load credit or handicap be applied to historic urban areas as an environmental tradeoff to reduce this potential conflict with Smart Growth principles.

Response: Requiring stormwater management retrofits through MS4 permits in older and historic urban areas does not mean that smart growth development will be more difficult than low-density development patterns. New development and redevelopment must comply with the MDE stormwater management regulations, which provide sufficient flexibility to support smart growth. In addition, the Phase I WIP accounting for growth strategy includes disincentives for sprawl development that should make smart growth development more attractive than low-density development.

Comment # 734.

Commenter: C45

The commenter states that EPA does not have authority under CWA to approve or disapprove of Maryland's WIP and does not have the authority to require assurance that might bankrupt businesses or economic standing.

Response: Maryland cannot respond for EPA or to issues outside the specifics of the Plan.

Comment # 735.

Commenter: C82

The commenter states that the Bay Model has numerous known inadequate or inaccurate areas, particularly in judging relative sediment contributions from land versus instream erosion, yet jurisdictions are being held to precise standards for pollutant loading estimates. There is no flexibility for jurisdictions in the proposed allocations. The commenter echoes the Maryland Association of Counties' concern that "The Chesapeake Bay Phase 5 Watershed Model continues to show improvements and refinements over previous versions, but ultimately the Model is still limited, being subject to inaccuracies and "best guess" estimates. Given that the Model is still imperfect but that State and county governments are being asked to undertake precise nutrient reduction tracking EPA must commit to further refining the Model and show some flexibility in allowing States and counties to present data and that may not be incorporated or accounted for by the Model. In short, the Model should not be a be-all and end-all for data measurement and analysis."

Response: As the Chesapeake Bay Program tracks progress, previously completed implementation that was not reported can be reported, verified and credited. Progress will be evaluated by direct water quality measurements as well.

Comment # 736.

Commenter: C96

The commenter states the WIP proposes to retrofit between 30 to 50 percent of urban impervious surface with modern stormwater controls. The Maryland Association of Counties and others estimate the cost of urban retrofit to be more than \$24.6 billion. This level of spending on retrofitting existing urban areas is based on EPA's estimation of the total amount of urban impervious, assumed per acre pollutant loading rates from urban areas and the amount of retrofit necessary to reduce loading to levels consistent with the TMDL cap. The commenter notes that as recent as October 28, 2010, Peter

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Claggett, of the USGS, reported to the Chesapeake Bay Scientific and Technical Analysis and Reporting (STAR) Committee concerning the measurement of impervious surfaces. In a memorandum to that committee Mr. Claggett says there are no existing practical solutions to adequately measuring impervious surfaces, or measuring the change in the amount of impervious surfaces. EPA now intends to reassess the amount of impervious surface during 2011. Preliminary information from EPA indicates that the official amount of impervious surface will increase by a factor of 2 or 3. Using current EPA estimates the Maryland WIP affects about 90,000 acres of urban land at a projected cost of about \$24.6 billion. Maryland is basing its targets on percentages of existing impervious surface; an increase in the total acres will result in an extraordinary increase in cost and obligation. The commenter (NAIOP) recommends that Maryland adopt acreage rather than percentage goals in its WIP and work with EPA to fix the model flaws related to urban impervious surface.

Response: Maryland will be counting actual nutrient or sediment pounds (or tons) reduced as a function of the actual acres retrofitted times an established efficiency.

Comment # 737.

Commenter: C96

The commenter states that the Chesapeake Bay Model uses USDA State Geographic Soils Data. This data set is thought to be sufficient for planning purpose across the 62,000 square mile Chesapeake Bay Watershed but it does not provide the detail necessary to accurately calculate runoff and pollutant loading in subwatersheds. Another soil data set not used in the EPA model, Soil Survey Geographic is recognized as providing a finer scale of data and is more appropriate for local implementation. A comparison of Fairfax County, Virginia data from the two sources found that the data set used in the Chesapeake Bay TMDL assumes only 9 percent of the county is low infiltration type D soils while the more refined Soil Survey Geographic indicates 42 percent of the county is composed of type D soils. When used to calculate infiltration and runoff rates the soils data used in the EPA model result in assumed infiltration rates for Fairfax County, Virginia that are more than two and a half times higher than the infiltration rate indicated by the Soil Survey Geographic. The commenter states that the use of this data set draws into questions whether current pollutant loading and allocations of future pollutants is accurate.

Response: The States will try to work with EPA between now and 2017 to make these types of improvements.

Comment # 738.

Commenter: C88

The commenter states it is inappropriate to draft Phase I prior to the completion of the Bay TMDL. The commenter suggests that once the TMDL is complete, and all data has been provided to the state, MDE, in close coordination with local governments and principle stakeholders, should draft a Phase I WIP. After that draft is complete, the commenter suggests the draft should be released through a comprehensive statewide public outreach process that provides at least 180 days for review and comment.

Response: The WIP provides reasonable assurance for the TMDL and so must accompany it.

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Comment # 739.

Commenter: C88

The commenter asks why initiate the Phase I WIP and establish TMDL regulations if they [allocations?] are not correct. The commenter states that much of Phase II might be spent discussing issue details that should have been resolved prior to implementation of Phase I.

Response: There are legal requirements to have a binding TMDL in place by December 31, 2010.

Comment # 740.

Commenter: C88

The commenter states that it is irresponsible of MDE to accept new allocations from EPA after the public comment period. Counties are being asked to comment on information that is already outdated and there is no provision in the schedule for a public comment period after EPA revises the allocations.

Response: There have not been significant changes in the allocations subsequent to the initial proposal.

Comment # 741.

Commenter: C88

The commenter notes that “EPA in conjunction with the Bay States and other interested parties...” have set the nutrient and sediment load limits that are intended to meet the water quality standards. The commenter states that localities were not considered to be *interested parties*, since localities were not consulted.

Response: Since localities were not consulted, Maryland has put so much weight on the comments received from the public, many of which were from localities. Phase II will be all about working with the localities and strategies can be changed where appropriate.

Comment # 742.

Commenter: C109

The commenter expresses concern that the effectiveness of the Bay model. The commenter states Maryland’s agricultural community is obtaining additional requirements on the basis a model that EPA confirms is flawed. The commenter notes many of the practices are not included in the model and there is no timetable to include the information. The commenter notes for years the agricultural community has demanded that better data for yields and acreages be included by using annual NASS data and this correction has not been made. The commenter has no confidence that requests for improved data will be made on the basis of prior experience of making these requests. The commenter notes that Bay modelers have expressed concern to farmers in the past that the original model was designed as a 64,000 square mile model and that model was never intended to become the source of identifying activities at the field level. The commenter suggests the basis of data in Scenario Builder is flawed and lacks science-based review and their livelihoods are at stake. The commenter would like to see the process slowed and there be no mandatory practices resulting from the current Bay model.

Response: See response to comment 709.

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Comment # 743.

Commenter: C101

The commenter supports the overall goal of establishing a TMDL for the Bay as necessary and desirable. The commenter does not believe that limiting the TMDL levels to nitrogen, phosphorous, and sediment is sufficient. The commenter recognizes that these are critical and accepted barometers of the Bay's health; however, the commenter states that the health of aquatic life in the Bay is threatened by a growing influx of chemicals that may be as potentially damaging, such as herbicides, pesticides, antibiotics, and hormones. The commenter suggests if the proposed TMDL limits are met the health of all species in the Bay will still be at serious risk from these chemicals as will anyone that consumes them. The commenter encourages EPA to begin a process by which these chemicals are prevented from entering the Bay's waters.

Response: Chemicals other than nutrients and sediments not addressed by the Bay TMDL will be addressed by local TMDLs and permits.

Comment # 744.

Commenter: C101

The commenter commends EPA for establishing deadlines in a process that in the past has resulted in little progress; however, given the complexity of what EPA is attempting to achieve, the short time frame between the end of the public comment period and the final WIP, is adequate to allow for meaningful review and study of each comment received, much less revising the plans. The commenter requests an extension in the time allowed to the states to receive, review, and react to any comment received prior to the final TMDL, and their submission of the final WIP.

Response: An extension is not possible, but modifications can be made in Phase II.

Comment # 745.

Commenter: C101

It is the commenter notes that many assumptions in EPA's TMDL and the Maryland WIP are based on a computer model. Given the size of the watershed and the complexity of the analysis the commenter cannot imagine any other means of attempting to create an overall plan for improving the Bay. The commenter recommends that the number of data collection points be increased to validate the assumptions contained in the computer model.

Response: Everyone would like to do that, but funding is constrained, so the program tries to do the best it can with the resources available.

Comment # 746.

Commenter: C47

The commenter, WSSC, has been working with MDE regarding inaccuracies in the assigned WLAs in Section 9 of the TMDL and in Appendix B of the WIP. The commenter understands that MDE will be providing EPA with the revisions to their Appendix B and requesting similar changes to Section 9 of the Draft Bay TMDL to correct show load allocations that are consistent with the current NPDES permits for each facility.

Response: The referenced information has been resolved prior to the final submission.

Comment # 747.

Commenter: C47

The commenter suggests that the WSSC Potomac WTP might need to be added to the NPDES point source dischargers list in Table 9 of the Bay TMDL and to Appendix B of the Maryland WIP. The Potomac WTP does not have nutrient limits; however, the NPDES permit does impose limits on the discharge of suspended solids under certain conditions. There may not be a need to assign a sediment load allocation for the purposes of running the Bay model since there is a net removal of sediment from the Potomac watershed by the Potomac WTP process.

Response: The referenced information has been resolved prior to the final submission.

Comment # 748.

Commenter: C47

The commenter commends EPA for acceptance of the Maryland WLA strategy for municipal WWTPs, which is based on implementation of ENR standards in the Draft Bay TMDL and that no further EPA backstop is necessary with respect to significant WWTPs.

Response: Noted.

Comment # 749.

Commenter: C47

The commenter has the following comments on WLAs listed on pages 32–36.

- **Marlboro Meadows:** Include a footnote to Table 9 that specifies that on completion of the pump-over project total sediment allocations for Marlboro Meadows will transfer to Western Branch along with the associated 0.6 MGD of capacity. At that time the discharge from the Marlboro Meadows facility will be eliminated and the current Marlboro Meadows NPDES permit will be terminated.
- **Parkway:** The load allocations assigned to the Parkway WWTP are correct.
- **Western Branch:** The capacity of Western Branch will increase by 0.6 MGD give the addition of the TN, TP, and sediment WLAs from Western Branch currently assigned to Marlboro Meadows.
- **Marlboro Meadows:** The final WLAs at Western Branch upon transfer of the flow from Marlboro Meadows will then be 372,776 TN, 27,958 TP and 2,795,824 total sediment load. The new capacity at Western Branch will be 30.6 MGD.
- **Damascus:** The load allocations assigned to the Damascus WWTP are correct
- **Mattawoman:** There are three separate WLAs assigned to the Mattawoman WWTP. These allocations represent local load equivalents assigned to multiple jurisdictions that send flow to the WWTP. The three separate flow allocations do not correspond to the commitment by the Mattawoman WWTP to reserve 3 MGD of treatment capacity for the portion of the flow that originates in Prince George's County, Maryland. Appendix B, page 18, of the Maryland WIP simply assigns the entire 20 MGD allocation to the Mattawoman WWTP.
- **Seneca Creek:** The load allocations shown for Seneca are incorrect. WLAs are based on a capacity of 20 MGD and the approved design capacity is 26 MGD. (See the Seneca NPDES permit recently issued and effective on 10/1/2010.) The associated nutrient load allocations authorized for a plant of this size are 316,738 TN and 21,563 TP.
- **Blue Plains:** The two separate WLAs shown for the Maryland portion of the flow are artificial jurisdictional load designations that have no practical meaning as the Maryland portion of the flow to Blue Plains is assigned to WSSC and not proportioned among

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Montgomery and Prince George's counties. The correct nitrogen load for allocation for the Maryland portion of the flow at Blue Plains is 1,993,000 TN. (See the Blue Plains permit and the Blue Plains Regional Committee letter of April 7, 2010.) The commenter supports the proposed footnote to the Draft Bay TMDL and the Maryland WIP regarding assignment or transfer of future nutrient load allocations at Blue Plains.

Response: Corrections made.

**Comment Response Document Two
Regarding Maryland's Phase I Watershed Implementation Plan for the Chesapeake Bay
Total Maximum Daily Load**

The Maryland Department of the Environment (MDE) has conducted a public review of the Phase I Watershed Implementation Plan for the Chesapeake Bay Total Maximum Daily Load. The public comment period was open from September 24, 2010 through November 8, 2010, although a previous version of the document was available for review upon submittal of the draft report to EPA on September 1, 2010. MDE received 126 sets of written comments. In the pages that follow, comments are summarized and listed with responses provided by State agency staff (MDE and the Departments of Natural Resources, Agriculture, and Planning). Comments and responses are grouped by the categories listed below. By clicking a category on the list and “ctrl” you can jump to that category in the response document.

- [General Objection](#)
- [General Support](#)
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- [Source Sectors—General](#)
 - [Agriculture](#)
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Below is a list of commenters, their affiliation, the date comments were submitted, and the numbered references to the comments submitted.

List of Commenters

Commenter number	Author	Affiliation	Date
C114	Sam White	Private citizen	11/8/2010
C115	James T. Noonan	Private citizen	11/8/2010
C116	Bruce Gilmore	Maryland Stormwater Consortium	11/8/2010
C117	Jennifer Dindinger	Choptank Tributary Strategy Team	11/8/2010
C118	Leslie Knapp Jr.	Maryland Association of Counties, Inc.	11/8/2010
C119	R. Calvert Steuart	Maryland Association of Soil Conservation Districts	11/8/2010
C120	Julie Pippel	Washington County	11/8/2010
C121	Kathy Phillips	Assateague Coastkeeper	11/8/2010
C122	William Tharpe	Hartford Soil Conservation District	11/8/2010
C123	Dr. Kelton Clark	Patuxent River Commission	11/8/2010
C124	Jake Marren	City of Rockville	11/8/2010
C125	Tanya Spano	Metropolitan Washington Council of Governments	11/8/2010
C126	Kim Coble, Jenn Aiosa	Chesapeake Bay Foundation	11/8/2010

General Support

Comment # 1.

Commenter: C116

The commenter (Maryland Stormwater Consortium) is very impressed by the quality and reach of the draft WIP submitted to the EPA. It has received EPA acclaim and deservedly so. It is quite clear in its description of what Maryland intends to achieve in implementing the Chesapeake Bay TMDL and reducing nutrient loads to the Bay from the various sources. All Maryland stakeholders will be able to understand and meet the Maryland WIP requirements and cannot complain about lack of clarity or onerousness.

The commenter states that the reason that the Maryland Draft WIP is strong is that it was prepared from the strong foundation established by the 2007 Stormwater Management Act which is arguably the strongest state stormwater management Act in the nation. MDE, local governments, developers and advocate stakeholders are working together to make the 2007 Act successful.

Response: Agree, and thank you.

Comment # 2.

Commenter: C119

The commenter compliments the Administration on producing the only WIP that received acceptance from EPA. The commenter believes this demonstrates the leadership role that Maryland has played in the Bay cleanup. Historically, Maryland has lead the way by bringing all interests together and putting together reasonable program that work for Maryland citizens. The commenter encourages Maryland to continue to pursue reasonable programs that consider our past successes.

Response: While there are millions of gallons of sanitary sewer overflow, they are not part of the TMDL because they are illegal discharges and must be stopped. There are three major consent decrees in place, requiring the expenditure of more than \$2 billion to fix these problems. The completion dates for major improvements to the collection systems are as follows: Baltimore City by 2016, Baltimore County by 2019 and WSSC by 2019. Further, although the flows are very large, the actual nutrient content is relatively low because the majority of sanitary sewer overflows are the result of precipitation events and the raw sewage is diluted by storm water. The more critical concern is the bacterial contamination which is not part of the Bay TMDL but is being addressed by dozens of local TMDLs for bacterial contamination.

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Comment # 3.

Commenter: C123

The commenter (Patuxent River Commission) congratulates Maryland in creating a Draft Phase I WIP in such short order. It is the PRC's belief that you have created a roadmap that sets clear actions that will point towards restoring the Chesapeake Bay and its tributaries.

Response: Comments noted and thank you.

General Phase I WIP

Comment # 4.

Commenter: C117

The commenter states that not enough attention is given to sediment in the Phase I WIP. Page ES-5 mentions that sediment reductions will occur with phosphorus reductions, yet P-reduction estimates have not been calculated for any agricultural best management practices (BMPs). The commenter asks now if it is possible to estimate sediment reductions without knowing the efficiency of P-reduction, and if so, why sediment reduction estimates missing from the WIP.

Response: The model automatically calculates the phosphorus reductions that are derived for any given BMP. That is how EPA is able to confirm that both the N and P goals will be met.

Comment # 5.

Commenter: C120

The commenter suggests the following overall comments be recognized as the WIP is finalized.

- Each County and area of the State is different and therefore, the WIP should allow the flexibility of local governments and citizens to choose methods which work best for their scenario in meeting the Bay TMDL allocations.
- The State needs to recognize that the current economic conditions have created difficult budgetary times for governments and citizens and this limits the amount of financial and staffing resources available for implementation of new programs. Therefore, an economic analysis maybe required to determine if we have the financial mechanisms in place to achieve the goals set in the current proposed timeframe. The County understands and supports the Bay initiatives and restoration, however, the timeframe under the current economic conditions may be setting us up for failure.
- Determining which options are best suited to address the Bay allocations is difficult for a county to make without knowing the allocation which will be assigned to their jurisdictions. The commenter understands that the Bay model changes has delayed the receipt of this information, but feel it is a crucial part to development of a WIP. Therefore, the commenter asks that flexibility be accommodated for in the approval of the final WIP Phase I to address any issues in the WIP Phase II document.

Response:

- Maryland plans to work at the county scale in Phase II so that will implicitly recognize the differences noted.
- The costs will be significant, but do not need to be incurred all at once. Initial costs will be all existing program costs, plus some additional funds for planning and capacity development that should be within reach of each jurisdiction.
- There is no intent that the listed strategies are the only ones that can be used, or that all of them be used. As we move into Phase II there will be significantly flexibility to apply the best set of practices.

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Comment # 6.

Commenter: 122

The commenter states that the efforts for the implementation of the WIP will need the cooperation of all the sectors (urban, wastewater, septic, agriculture) and no one sector to carry the burden of compliance alone.

Response: Agreed. Cooperation among all the sectors to meet the reductions is a basic premise of the WIP.

Comment # 7.

Commenter: C124

The commenter states that the Draft Phase I WIP does not adequately address how the proposed pollution reduction strategies are justified or cost effective. To justify the allocations of load reductions, the WIP must demonstrate that load reductions are commensurate with that source's environmental impact, will be imposed on sources with the capacity to achieve the reductions, and that the reductions are cost effective. Three facts found in the WIP indicate that the current slate of options considered do not meet this standard:

1. Agriculture, unregulated urban stormwater, and other nonpoint sources comprise a significantly larger portion of the current pollutant load than urban stormwater,
2. Costly urban stormwater retrofits will be imposed on National Pollutant Discharge Elimination System (NPDES) jurisdictions with insufficient amounts of state funding offered to help pay for these improvements and no consideration of whether these costs will be justified, and
3. The NPS sector will be expected to achieve modest pollution reductions primarily through a series of state or federally-funded voluntary programs.

The commenter points out that Section 319 of the CWA directs the states to create and implement NPS pollution programs to ensure that all navigable waters meet water quality standards. The statute also states that these programs should contain a regulatory and enforcement component. It is inequitable to force NPDES permit holders to achieve stringent reductions through expensive retrofits under threat of penalty while the nonpoint sector is only enticed with carrots funded by government. To be effective and fair, Maryland's nonpoint pollution control program must include a credible regulatory and enforcement component. The Water Quality Improvement Act, requiring nutrient management plans, was a good start. Maryland should leverage nutrient management plans to achieve more stringent reductions from agriculture. Plans should be monitored and enforced with the same stringency as Metropolitan Statistical Area (MSA) permits and the results quantified. If the management plans do not achieve the pollutant reductions necessary, Maryland Department of Agriculture (MDA) should make them more stringent. These are the cornerstones of a robust adaptive management strategy.

The commenter states that it is worth noting that the Chesapeake Bay TMDL contemplates the states' NPS programs stepping up to take pressure off of the NPDES permit holder community. Since the federal government lacks authority to regulate NPS but the states have ample authority to do so, EPA held out stringent backstop measures on point sources as an inducement for states to beef up their NPS programs. Instead, the draft WIP does not meet this challenge and threatens to impose a heavy burden on local stormwater programs and wastewater treatment plants (WWTPs). The commenter disagrees with this strategy and urges Maryland to reexamine its implementation priorities.

Response: The basic premise of the allocations was equity based on an equal percentage reduction of reducible load. Reducible load was calculated as the difference in loads between a no action scenario

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and a maximum feasibility scenario; cost was not considered at this point, but will be a major aspect of Phase II. Maryland anticipates that there may be trading between sectors that will lower costs.

Comment # 8.

Commenter: C125

The commenter's major concerns relate to the degree to which the draft documents rely on retrofitting for urban stormwater nutrient and sediment reduction. The levels of retrofit cited in the documents raise very real concerns about physical and financial feasibility, overall effectiveness and local program capacity. The commenter expresses concern about the potential implications of the backstop provisions on local stormwater and wastewater programs. Specifically, if other sectors, particularly agriculture, do not achieve their targets, we are concerned that permit-mandated requirements for stormwater retrofits and Enhanced Nutrient Removal (ENR) at WWTPs in the region will be rendered obsolete by backstop provisions.

The commenter makes the following recommendations:

- Include a comprehensive stormwater retrofit cost analysis as a part of the Phase II WIPs – Including a stormwater retrofit cost analysis as part of the overall analysis of cost affordability and cost effectiveness will maximize the beneficial use of public funds and ensure that governments and landowners are financially able to provide continuing improvements in subsequent years.
- Reschedule the due date for the Phase II WIPs - A six month expansion of the period to prepare the Phase II WIPs, while continuing local efforts to reduce Bay pollution, will allow for greater public participation and more in-depth technical and cost analyses.
- Couple any use of federal backstop provisions for urban stormwater with appropriate levels of federal-state matching funds.
- Consider conducting a use attainability analysis if such funding is not made available, or if other constraints on implementation under the current deadlines prove insurmountable.

Response: All of this will be addressed in Phase II where a greater amount of geographic specificity will enable those determinations. An extension of Phase II has been requested, and EPA has indicated a positive response, although has not made any determination at the time this is being written. It is too soon to consider a Use Attainability Analysis (UAA). Even if full implementation is not possible, we must do as much as possible before a UAA will be considered.

Comment # 9.

Commenter: C125

The commenter states that the deadlines do not take into account the amount of time local governments will need to put into place the level of practices that the WIP proposes. Local governments will need to develop local implementation plans, determine budget needs, pass new ordinances, and potentially raise new funds before they can even begin to design and build new projects. Design and construction schedules also will be subject to various scheduling constraints.

The commenter states the Phase I WIP documents should include reference to a specific level of stormwater retrofit for either municipal separate storm sewer systems (MS4) or non-MS4 urban areas.

Response: This is a concern. Maryland will need to find a way together to streamline our processes.

Comment # 10.

Commenter: C125

The commenter states that for several reasons—lack of cost-benefit analysis, lack of viable funding mechanisms, uncertainties regarding the accuracy of local loading assumptions, and the existence of timing, physical feasibility and other constraints—it is premature and possibly self-defeating for the Phase I WIP document to propose specific levels of stormwater retrofits. Doing so would violate EPA's reasonable assurance standard since implementation levels cannot be assured at this time. It

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may or may not be possible to do so in the Phase II WIPs, depending on the extent to which these questions have been answered and the various issues addressed. Also, there are still many questions regarding the accuracy of loads attributed to the stormwater sector; in particular, whether loads outside of the MS4 areas contribute loads to those sectors.

The commenter states that the State Phase I WIP document should include reference to a specific level of stormwater retrofit for either MS4 or non-MS4 urban areas. This will allow time for the analyses recommends from WIP public comments to be conducted before establishing specific retrofit requirements. Retrofitting requirements in future MS4 permits should consider local fiscal and physical realities.

Response: Specific implementation levels were essential to determine if water quality standards would be met. The final strategy included only regulated stormwater so compliance is not dependent on funding, but can be enforced through the permit.

Comment # 11.

Commenter: C126

The commenter states that the WIP contains few commitments that would provide reasonable assurances that NPS pollution reduction targets will be met. While the WIP contains options to expand agricultural BMP implementation, increase stormwater retrofit requirements, increase advanced septic system technologies, and increase natural filters on private and public lands, there are no commitments for changing programs, developing new regulations, generating dedicated revenues, or creating other requirements that would ensure these actions are actually taken. Such options need to be backed with enforceable or otherwise binding commitments because voluntary implementation alone will not be sufficient to meet the extensive list of actions required to meet Maryland's nutrient pollution reduction goals under the Bay TMDL.

The commenter states that it is imperative that Maryland include concrete commitments regarding the programmatic, statutory, and regulatory changes—including commitments to necessary funding—that will be necessary to provide not only reasonable assurances for EPA, but can give stakeholders in Maryland the confidence that all sectors are being required to increase their actions in measurable and accountable ways. In order to substantially increase implementation of outlined activities, the State, local governments, private individuals, and others in the private sector will have to increase their resources targeted to pollution reductions.

Response: More concrete commitments were added to the final submission.

Comment # 12.

Commenter:

The commenter notes that the Draft WIP suggests that even the accelerated Milestone rates of implementation of agricultural practices will result in a source sector gap of 1.4 million pounds of nitrogen, if outlined levels of implementation of cover crops and other practices are achieved annually. The draft WIP outlines a series of options that might be used to address this sizeable sector gap. Unfortunately, many of these options are largely untested and have no verified nitrogen removal efficiency data associated with them. Such a large pollution reduction gap would be better addressed through more aggressive implementation of practices with reliable nitrogen reduction efficiencies. Furthermore, the draft WIP lacks sufficient details on the gap-filling strategies, so there is no way to know if, as outlined, the strategies will meaningfully reduce nutrient pollution loads from the agricultural sector.

The commenter states that the agricultural sector strategy should increase implementation rates for most of the practices currently listed at, or slightly higher than, current 2-year milestone rates. It is precisely these practices—including fencing cattle from streams, planting buffers, building poultry litter storage facilities, and employing conservation tillage—that can be easily incorporated into

current funding programs and farm operations. These practices meet multiple objectives on most operations, and have been undertaken routinely within Maryland, with known costs and outcomes.

The commenter notes that increasing implementation rates will not be without challenges, most notably in technical and financial assistance. The State should address these problems by identifying and securing additional revenues and determining how to meet the statutory requirement to fully fund SCDs with technical personnel. The commenter provides one idea to provide additional financial resources: model a transferrable tax credit program in Maryland after Pennsylvania's successful Resource Enhancement and Protection (REAP) Program, which can incentivize private sector investments in agricultural conservation.

The commenters states that in order to accelerate implementation of some of these practices, Maryland must also look to the use of flexible standards. For example, it was clearly stated at the statewide WIP public meetings that farmers generally want to fence cattle from waterways because of the dual benefits of improved stream and livestock health. In many cases, minimal fencing is necessary to complete the job (2-strand wire versus USDA-recommended 5-strand fencing) and more modest fencing can be more attractive to farmers who rent the land they farm. CBF routinely works with farmers in central Maryland to implement such fencing projects, but these exclusions currently do not count toward nutrient reductions in the Bay model. The commenters states that the use of more flexible standards, only where appropriate, can be a cost-effective way of stretching limited cost-share funding and increasing implementation rates simultaneously.

Response: In general, the final submission was consistent with these recommendations.

Source Sectors—Onsite wastewater treatment systems

Comment # 13.

Commenter: C126

The commenter notes that loads associated with a county's septic systems must be assigned an allocation, which is effectively a cap determined by the number of systems in 2010. The commenter suggests that county master plans for water and sewerage must describe how the county intends to maintain the allocation and operate a program to offset nitrogen loads in accordance with the state's guidance on trading and offsets. By tying this allocation to local water and sewer planning, local jurisdictions will have a meaningful tracking mechanism as well as flexibility for how offsets are implemented. By establishing this effective cap any new septic system installed would have to offset its new load, just as a new wastewater facility would have to.

Response: This is a Phase II tracking and accounting issue. Local implementation plans would identify strategies, milestones, tracking and reporting of various strategies to meet and maintain allocations for all nutrient and sediment sources. Some options and comments are outlined below:

A County could chose to include this data in its Water and Sewer Plan, but the focus of Water and Sewer Plans is on water and sewer infrastructure rather than on-site wells and septics. Since Water and Sewer Plans are not required to be submitted on an annual basis, the frequency of Water and Sewer Plan submittals might not meet the reporting requirements for the WIP. Also, the Water and Sewer Plans are often prepared by the Public Works Departments, whereas the installation of septic systems is under the purview of the Local Health Departments.

The County Health Officer could track septics when signing-off on record plat approvals. The County could use the development approval process to track septics and manage offsets if they chose to do so.

It might be more efficient to plan for septic offsets on a regional scale rather than lot by lot. A local Watershed Improvement Plan that informs a Comprehensive Land Use Plan might be the best approach.

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Perhaps a County would want to prepare one comprehensive report for WIP compliance that incorporates the tracking of septics, improvements in point sources, the status of MS4 permits, etc.

The WIP envisions a 2-year process to further develop the accounting for growth strategy. As part of this process, potential unintended consequences, implementation mechanisms, and methods to improve the strategy will be explored. In response to public comments, Section 3 of Maryland's final Phase I WIP submission provides more detail on tasks to complete and recommended options to explore to finalize the accounting for growth strategy.

Source Sectors—Forest

Comment # 14.

Commenter: C117

The commenter states that the *Forest Section* (Section 2.2.2.9) seems inadequate. The forest source sector is the third highest contributor for nitrogen and sediment and it is fourth for phosphorous. The commenter asks several questions: Where do these pollutants come from on forest land? Are they referring to land that is being logged? Or just sitting there with trees on it? Isn't forest one of the highest land use coverage types in the state? It just doesn't seem right to have a category with such high pollutant numbers and then to have no reductions from that sector?

Response: The reason the loads are so high is that Maryland has a lot of forest land. The loading rates for forest are the lowest of all the land uses, so there isn't much that can be done to reduce those loads.

Source Sectors—Air deposition to nontidal streams

Gap Analysis

Comment # 15.

Commenter: C115

The commenter states that additional costs for site development, public infrastructure investment, regulatory constraints, and administrative costs have been placed on growth areas throughout this program. While the text discusses the benefits of Smart Growth, there are no benefits to proceeding with that development approach other than the deletion of offsets for redevelopment projects. *Section 3* touts the benefit of higher density, but the benefits described are based solely on reductions to impervious surfaces. Smart Growth gets no play here for the benefits it brings of reducing VMT, GHG emissions, etc. There is no place in this WIP that translates VMT reductions or water quality improvements into the balance sheet in which nitrogen or phosphorus are calculated and applied to the required TMDL targets. In other words, while Smart Growth helps to achieve those targets it is not treated as a strategy to be used to reach the target, but simply as just another development type that is regulated in the same way that all other development is regulated.

The commenter points out that urban redevelopment is spared the requirement of finding offsets that are described as necessary to account for shortcomings in septic regulations and for agricultural sources. With that one exception, the regulatory structure as implemented through MS4 permits applies just as much to high density urban development as to any other development in the growth area. There is no offset for the cost of meeting a *woods in good condition* standard in a heavily urban area. On the other hand, low density development in rural areas seems largely to get a pass from this regulatory framework if for no other reason than the availability of land areas to locate areas to hold and treat run-off.

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Response: Additional loads from development cannot be allowed at the same time other sectors are trying to reduce loads, hence the need for offsets. In the past decade, much of the progress we would have made was offset by increased growth and development that increased impervious surface and loads. Urban development is not spared offsets and will be required to reduce loads and meet allocations through the MS4 permits. Through the new stormwater regulations the re-development standard that will be required in existing urban areas is more moderate than complete offset.

MDP Response: See response to comment 13.

Comment # 16.

Commenter: C118

The commenter states that the proposed Phase I WIP adopts a hybrid method for addressing future growth—it builds a certain amount of growth into the TMDL numbers and also requires the use of nutrient reduction offsets. The amount of offset activity that must occur is based on the per capita nitrogen loading, with high population density areas on water and sewer having to do the least offsets and low population density areas having to do the most. The commenter acknowledges that the use of growth offsets may be necessary to accommodate future growth while still meeting State and local TMDL goals; the commenter is concerned that the proposed offset system may unfairly penalize rural jurisdictions. Maryland has been a leader in Smart Growth but while our Smart Growth model works well for urban jurisdictions, it has never recognized or adequately addressed the different growth patterns and needs of rural areas. The proposed offset model may work for urban jurisdictions but must be refined before being applied to rural jurisdictions. The offset system also needs to provide counties ample elasticity, so that a county may mandate the required levels of offsetting versus the level of post-development retrofitting. The commenter states that clarification is also needed about how the offset system will interact and mesh with local comprehensive plans and permit issuances. Offsets assume the availability of land to receive the offsets. In many instances, this will be farmland. Study is needed to fully understand the impact an offset requirement will have on agricultural land and whether the requirement will unintentionally contribute to the depletion of productive farmland.

Response: The program for offsetting additional loads from future growth will be refined over the next year. Also see response to comment 13.

Comment # 17.

Commenter: C125

The commenter (Metropolitan Washington Council of Governments) states that the region population is forecast to increase 20 percent, or by about 1 million people, between 2010 and 2030. Most of this growth will occur as infill development in existing urban areas already served by municipal WWTPs. As the Maryland WIP notes in Section 3-1, having the growth occur in service areas for existing WWTPs produces much lower loads to offset than would allowing the growth to occur outside of sewered areas. As the Maryland WIP notes, the increased WWTP load from new growth to 2030 can be accommodated within proposed plant allocations determined by 2010 design flows and various targets for enhanced nutrient removal implementation. It is also imperative that this growth capacity not be compromised by backstopping and other actions by EPA or the states that would reduce the current proposed WWTP allocations in response to the failure of other sectors to achieve their assigned reductions.

The commenter supports the growth and offset strategy that Maryland has outlined in its WIP (Section 3.2), which proposes to provide lower disincentives for growth in areas that are already more highly developed than in other areas.

Response: Thanks for your support. Maryland worked very hard to avoid backstops that would have increased costs and more significantly impacted growth potential.

Comment # 18.

Commenter: C126

The commenter states that the use of a separate *Future Allocation* for accommodating new growth is contrary to the entire TMDL and WIP goal of reducing and capping pollution. Future Allocation transfers the burden of pollution reduction to other sectors and pre-supposes success. A separate Future Allocation also places infill and Smart Growth at an artificial disadvantage. The commenter states that the concept of Future Allocation must not be included in the WIP. All urban sources, both existing and new, need to be classified in a single sector and be held accountable for the nutrient reductions needed in the watershed. Furthermore, the methods for tracking the impact of growth must be uniform across local jurisdictions and publicly accessible in a single location coordinated by the state.

Response: The Phase I WIP accounting for growth policy envisions the remaining WWTP capacity below WWTP caps as the allocation for future growth in WWTP loads, but does not provide an allocation for future growth in stormwater or septic tank loads. Once WWTPs reach their caps, they will only be allowed to exceed their caps through trades that are in compliance with the guidelines established in the MDE Policy for Nutrient Cap Management and Trading (see <http://www.mde.state.md.us/programs/Water/Pages/water/nutrientcap.aspx>) and the draft MDA Guidelines for the Exchange of Nonpoint Credits (see <http://www.mdnutrienttrading.com/>). Section 6.3.2 of the Phase I WIP discusses tracking mechanisms for new growth.

Comment # 19.

Commenter: C126

The commenter notes that the inclusion of offsets, with forest as the baseline, for pollution loads associated with growth, is a positive element of the draft WIP. The draft WIP appropriately lays out a concept that differentiates between growth that occurs in higher density areas with low per capita load potential, versus growth that occurs in more remote, less dense areas where per capita pollution loads are higher, provided that high-per-capita loads are offset at a ratio of at least 2:1. Criteria for designating mid-per-capita areas, consistent with the criteria for designating PFAs, are an additional necessary element. This model, combined with the 2007 Stormwater Management Act and implementing regulations which set different stormwater management standards for redevelopment versus green field development, will strengthen the state's foundation for smart growth.

The commenter states that the proposed policy is incomplete without concerted efforts to first prevent and minimize new pollution loads associated with growth, prior to considering and awarding offsets. Combined, new development and septic systems are projected to add 2.2 million pounds of nitrogen to Maryland's portion of the watershed by 2020—a significant portion of Maryland's total projected gap in nutrient reductions. In this context, the WIP's use of offsets as the primary means to control the impacts of growth is insufficient for the following reasons:

- offsets place little responsibility on local government to modify future land use plans to benefit water quality;
- offsets are not expected to be widely available in the near term;
- over the long term, offsets may become more attractive than on-site minimization and treatment of pollution, to the detriment of nutrient reduction efficiency and local environmental quality; and
- contingencies are not delineated for situations where offsets are unavailable.

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The commenter suggests that the WIP needs to limit the use of offsets by prioritizing prevention and on-site load reduction as the primary way to address proposed new loads due to growth. After minimizing new loads, on-site treatment should be instituted to the maximum extent practicable. Only after this sequence of avoidance and minimization is exhausted, should offsets be allowed to be used. In addition to this offset sequencing, the actions should be taken to ensure that new loads from growth are efficiently and effectively controlled.

The commenter suggests that Maryland outline how offsets will be handled in the interim three years while it finalizes the offset program. During this interim, Maryland must effectively manage offsets from new loads associated with growth in an enforceable manner.

Response: Offsets by themselves do not place responsibility on local governments, but the allocations do. Poor growth patterns will more rapidly increase loads leaving less potential for growth or increasing its costs. If offsets are not available, that will slow growth, producing a strong incentive to more creatively find offsets. Phase II will develop strategies with greater geographic specificity and in the process reveal areas where sufficient offsets are quantitatively unavailable. Also see response to comment 13.

Comments on Specific Strategy Options—General

Comment # 20.

Commenter: C117

The commenter, referring to the *Summary Table of Actions* in Chapter 5, states that it seems that there should be a clearer division for Agricultural and Non-agricultural practices. Everything listed after Septics (*Best Farming Practices*, *Natural Filters on Private Land*, and *New Farming BMPs*) seem to be considered Agriculture (because the suggested funding sources for these practices are federal and state agricultural cost share programs) except for *Natural Filters on Public Land*. The *Planned Activity* headings should all be either left or center justified, and not mixed.

Response: Significant additional detail was added to this sector in the final submission.

Comment # 21.

Commenter: C117

The commenter, referring to Section U page 5-43, notes that there is a target of 7 miles for private land. The commenter requests that there be an anticipated load reduction number for public lands and states that it is interesting that there is no anticipated load reduction associated with this item but grant applications always ask for this information.

Response: Load reductions were estimated in the final submission.

Comment # 22.

Commenter: C118

The commenter points out that there has been much discussion of using a nutrient trading plan, but the specifics of how such a plan would work in the TMDL context needs to be provided. It is not clear how the trading is going to be tracked and how the local jurisdiction where the trading is occurring is going to be notified. While some of these details can be addressed in the Phase II WIP, it is troubling that the Phase I WIP places significant reliance on nutrient trading while providing little additional information.

Response: There is an on-line nutrient trading process developed by MDA that includes both tracking and verification. Any trading affecting local jurisdictions will need to be memorialized in writing with the jurisdictions and be enforceable or otherwise binding. Also see response to comment 13.

Comments on Specific Strategy Options—Agriculture

Comment # 23.

Commenter: C126

The commenter states that it is widely recognized that current use of the P-Index is not adequately protective of water quality, especially in areas of high animal concentration, notably the lower Eastern Shore. As currently used, Maryland's P-Site Index allows for additional phosphorus to be applied to P-saturated soils. Phosphorus-based nutrient management must protect water quality, be reasonably simple to understand and implement, and balance manure use with crop removal.

The commenters suggests that a top priority must be placed upon the current WIP recommendation to reevaluate and revise the current state P-Index to incorporate the best available science and more appropriately identify the risk for phosphorus movement from cropland. Reevaluation of the threshold that currently triggers required use of the P-Site Index is a parallel necessary action. In Maryland, use of soil fertility values of 150 or greater may result in preventable P losses from soils with lower soil test phosphorus levels. Maryland should also work with the other Bay states to determine an appropriate schedule under which the region can transition phosphorus-based management to a more sustainable approach. Ultimately, the goal must be to balance manure applications with crop phosphorus removal on all farms in the Bay watershed.

Response: Maryland has committed to a reevaluation and revision of the current P-site index based upon a science based review.

Comment # 24.

Commenter: C119

The commenter supports a science-based review of the phosphorus site index that considers risk, soil type, distance to water sources, topography, crop needs, etc. The current index has served Maryland well and with additional research of the last decade is due for a review.

Response: See response to comment 23.

Comment # 25.

Commenter: C114

The commenter points out that in Section 5.2.5, *Potential Agriculture Options to Fill Gap* on page 5-33 that the text read that "chemical fertilizer represents 22 percent of the nutrient inputs and animal manure contributes 12 percent of the load..." The commenter owns a farm that has abandoned synthetic fertilizers and corn within the cattle feed. He states that although it does not fall within MDE's authority, the conversion of livestock (cattle, dairy, goat, horse, etc) to Managed Intensive Grazing and/or Managed Rotational Grazing is necessary for agriculture producers to have a foundation to abandon or severely reduce the use of synthetic fertilizers and various row crops. The commenter states that with the help of the local Natural Resources Conservation Service (NRCS) office and Environmental Quality Incentives Program (EQIP) funding, he purchased fencing materials allowing him to divide his fenced pasture into the appropriate sizes needed for intensive grazing.

The commenter points out that the soil conservation staff within the local NRCS offices has the attention of local livestock producers, while the staff at the MDE does not. The commenter supports the agriculture proposals; however, he requests that the State reach out to the NRCS to push for a fundamental change in how livestock is raised in Maryland.

Response: These are all good ideas and need to be developed within the farming community with support from the State agencies. NRCS is a partner in the Ag strategy and will provide resources to implement practices.

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Comment # 26.

Commenter: C117

The commenter points out that under *New Farming BMPs* there is an option for 10-ft riparian setback for fertilizers and asks if that is enough of a setback and notes that this brings up the question of grass and forest buffers on agriculture land. The commenter asks what width of the buffer is being recommended if the fertilizer application only requires a 10 ft setback and is the buffers only 10 feet wide as a result.

Response: The 10 foot “no fertilizer” set back is currently under consideration and requires the 10 foot area to be vegetated.

Comment # 27.

Commenter: C117

The commenter requests that sediment and phosphorus efficiency estimates should be calculated for the available strategies.

Response: The final document provides additional phosphorous estimates.

Comment # 28.

Commenter: C118

The commenter supports expanded development of new soil conservation and water quality plans and updating plans on Maryland farms. These site-specific plans recognize that one size does not fit all and will establish a roadmap for each farmer to follow to meet the TMDL goals. The commenter states that it is very important that agriculture be provided with flexibility in how it reaches its assigned goals. While cover crops are an excellent BMP to reduce nutrient loss into the Bay in most years, the commenter is concerned that certain groups believe that they should be mandated. In years where high yield, weather conditions, timing concerns, etc. impact the planting or need for cover crops, farmers should not be concerned about regulatory consequences but should instead be provided with technical assistance to find alternative Bay friendly solutions.

Response: Soil conservation and water quality plans are included in Comprehensive Nutrient Management Plans (CNMPs) for confined animal feeding operations (CAFOs). Maryland’s plan is to stick with the voluntary incentives to provide maximum flexibility.

Comments on Specific Strategy Options—Municipal dischargers

Comment # 29.

Commenter: C115

The commenter states that the new strategies for wastewater treatment do little more than affirm actions already taken in Maryland beginning in 2006. The WIP acknowledges shortfalls in funding for the Bay Restoration Fund (BRF) Program. Unfortunately the TMDL allocations would require extension of ENR to more treatment systems rather than fewer. No policy is laid out in the WIP to address the funding shortfall either for the enhanced nutrient removal (ENR) improvements already envisioned in the nutrient reduction program or for additional WWTP improvements suggested in the WIP. It is good that the WIP acknowledges this shortfall, but it is not a plan to then say that the State has “begun developing options to close this deficit.” The commenter states that in the face of the funding shortfall for ENR at major WWTP, the WIP goes on to state that Maryland will evaluate the feasibility of extending ENR improvements to five of the largest of the minor municipal systems. The estimated cost of this step is \$58 million dollars or almost \$12 million for each plant, while no State or federal funding is identified.

The commenter points out that the WIP states that the smallest treatment systems contribute very little nutrient load to the Bay, however, if one looks at the growth management strategies enunciated by

other state policy and reflected in county and municipal comprehensive plans across the state, these small systems are supposed to accommodate growth and development as part of a growth management strategy to protect agricultural land, prevent sprawl, and lessen the number of septic systems in rural areas. The nutrient cap originally established in the BRF program and retained as part of this WIP works against those growth policies and will result in additional septic systems that contribute four to five times the nutrients per household than additional hookups on the wastewater treatment plants subjected to the cap. A more appropriate and effective WIP strategy would be to remove the nutrient cap for all wastewater treatment plants combined with a more aggressive funding policy to put ENR in place and to upgrade septic system standards.

Response: Phase I WIP includes individual nutrient caps or wasteload allocations for all major wastewater treatment plants as required by EPA. The State is currently providing a 100 percent of eligible ENR costs, in accordance with BRF legislation. This is as aggressive as the program could be designed and implemented. In addition, BRF provides grant funding for best available technology (BAT) upgrades of septic systems. The State and local governments continue evaluation of new technologies and practices in order to achieve additional nutrient reductions from all sources.

ENR upgrades are targeted to the 67 largest WWTPs in Maryland, which includes ENR upgrades for several towns with less than 5,000 people. This will support smart growth in smaller communities in Maryland. If caps are removed from one sector, such as WWTPs, then other sectors, such as agriculture or stormwater, will need to implement additional pollution reduction measures.

Comments on Specific Strategy Options—Onsite wastewater treatment systems

Comment # 30.

Commenter: C115

The commenter states that data published by the MDP indicates that an estimated 7 percent (3.6 million pounds per year) of the Bay's total nitrogen load in Maryland comes from septic systems (420,000 households). On the basis of current growth trends, MDP projects about 145,000 new septic systems will be added over the next 20 years, resulting in a 34-percent increase (1.24 million pounds per year) in total nitrogen load. The WIP indicates that installing or upgrading to a nutrient enhanced removal septic system, reduces the nitrogen load delivered to the Bay by half.

The WIP executive summary (*Gap Analysis* on page ES-12) indicates that loads from septic system must be reduced by approximately 0.6 million pounds per year beyond what would be reduced by the existing strategies. The only new steps listed in the WIP to deal with nutrients from septic systems are to 1) connect failing septic systems to wastewater treatment plants with advanced nutrient removal technologies, and 2) to require that all septic systems within 1,000 feet of a stream use BAT for nitrogen removal. Septic system permits and the treatment standards and technologies required are clearly within the purview of State regulation. Given the stated inadequacies of the WIP activities listed it is difficult to understand why the WIP does not simply extend the requirement for best available technology to all new septic systems. Instead the WIP requires offsets for new development within designated growth areas (areas subject to MS4 permits) that are designed in part to offset growth in septic systems.

The commenter asks that with the cap restrictions and need for WWTP capacity to accommodate future growth, why any municipal system should use limited capacity on existing sprawl development on septic systems. Unless the treatment cap is removed this is simply an inequity that will further limit the state's ability to accommodate growth in appropriate areas.

Response: The State and local governments are responsible under the WIP for achieving septic tank target loads. Several local governments have already developed plans for using some remaining WWTP capacity to connect septic systems. Also see response to comment 29.

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Connecting an existing septic system to a WWPP does not count against the nitrogen cap for that WWPP as the connection results in a net loss of nitrogen discharged to surface water. In Chapter VII of the WIP “Contingencies For Slow or Incomplete Implementation” Maryland commits to develop State specific options for requiring septic nitrogen removal upgrades for:

- All new septic systems outside Critical Area;
- All replacement septic systems outside Critical Area;
- All septic systems at point of sale;
- Use of BRF obtained from septic users to fund connection of multiple on-site sewage disposal systems to existing advance wastewater treatment facility; and,
- Require nitrogen load offsets from all new septic systems statewide.

Removing treatment caps is not an option the State can exercise because caps are required by EPA.

Comment # 31.

Commenter: C126

The commenter notes that there are more than 430,000 septic systems in Maryland, and new traditional systems are added each year. An estimated 7 percent (3.6 million pounds per year) of the total nitrogen load in Maryland comes from septic systems. New septic systems are, collectively, a substantial annual new source that is currently not required to be offset or otherwise mitigated, and most are not even required to use BAT for nitrogen removal. On the basis of current growth trends, MDP projects about 145,000 new septic systems will be added over the next 20 years, resulting in a 34 percent increase in nitrogen loads from septic systems in Maryland •

The commenter states that the State must commit to limiting new development on septic systems by legislatively prohibiting the use of septic systems to serve new major subdivisions. Major subdivisions belong in designated growth areas, where they can be served by centralized sewer. Any new major subdivisions to be built outside of centralized sewer service areas must use centralized collection and treatment processes that improve nitrogen removal over traditional septic systems and include routine maintenance and operation by a trained, responsible party. The system should be sized to serve only the proposed project, and must be consistent with the local jurisdiction’s approved master plan for water and sewerage. Maryland cannot continue to allow sprawl development on septic systems for a number of reasons, not the least of which is that it equates to an end-run around state point source caps on wastewater treatment plants.

Response: The Phase I WIP accounting for growth strategy includes disincentives to discourage low-density development in non-sewered areas. In addition, in response to public comments, the Phase I WIP includes a State commitment to investigate several potential options related to meeting the septic tank target load.

Comments on Specific Strategy Options—Urban (including MS4s)

Comment # 32.

Commenter: C116

The commenter states that it is not sufficient for the Montgomery County MS4 permit to be used as the template for all other Phase I MS4 permits in the State; but rather, the permit should be considered a base for future permits. Although this final permit, issued to Montgomery County by MDE in February 2010, contains several elements that were improved and strengthened over the prior generation of MS4 permits, there remain a few key points that require further strengthening, including the retrofitting (Watershed Restoration) provision. The commenter suggests that TMDL implementation plans should be enforceable under the MS4 plans and the stormwater pollution and

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damage reduction goals should be clearly stated in those plans. The commenter suggests that the WIP should also state clearly the expectation that Maryland's environmental site design stormwater management requirements are expected to contribute to these reductions.

The Montgomery County MS4 permit requires that within the five-year permit term, 20 percent of the county's impervious acres, in older urbanized neighborhoods, be restored through ESD and other nonstructural techniques; structural stormwater practice retrofitting, and stream channel restoration. The commenter expresses concern that such a requirement is too vague and open-ended, and is not grounded sufficiently in the Stormwater Management Act of 2007 because it fails to give primacy to ESD approaches. If used as a template without amendment for future MS4s in Maryland and elsewhere, this provision may lead to the undesired outcome that Montgomery County and all other Phase I counties will require less-effective standard stormwater BMPs and stream channel re-engineering projects, neither of which can achieve stormwater flow reduction or the replication of pre-development hydrologic regimes. In contrast, the commenter requests that the Maryland WIP and MS4s require an effective MS4 watershed restoration/ retrofitting provision, which will give primacy to stormwater flow reduction approaches based on ESD facilities and systems consistent with the 2007 Act, Chapter 5 of the Maryland Design Manual and the 2008 NRC Stormwater Committee recommendations.

While the commenter is encouraged by the EPA comment on this aspect of the Maryland WIP, they request that specific retrofit standards become part of each MS4 permit irrespective of its extension status. The commenter (Maryland Stormwater Consortium) requests that they are allowed to take part in preparing a retrofit guidance.

Response: MDE has crafted the strongest stormwater permit in the Chesapeake Bay Region with Montgomery County's MS4. MDE accepted extensive comments from EPA, environmental activists, local governments, and the business community when drafting this permit and believes that it is well-balanced and an effective tool for meeting both CWA requirements and Chesapeake Bay TMDLs. As such, MDE will use Montgomery County's permit as the template for all future MS4 permits and will provide an opportunity for the public to comment on these permits as they are issued.

Comment # 33.

Commenter: C117

The commenter refers to *Natural Filters on Public Land* and asks if this include parks, natural areas, schools, universities, road and highway rights-of-way.

Response: Yes, Maryland has done a GIS analysis of federal, state and local lands to target natural filters that have the greatest water quality and habitat benefits.

Comment # 34.

Commenter: C117

The commenter notes that in Section 5.2.2, *Urban Stormwater Loads*, under Option D (page 5-25), the planned activity is to report urban nutrient management that exists but is not accounted for in the Bay model. Yet the Strategy indicates that fertilizer application would actually be reduced by this accounting exercise. The commenter requests that this be clear in that this is an accounting exercise and that reductions will be seen in the model runs only.

Response: In the final submission, it was clarified that urban nutrient management can also include things like low phosphorus and slow release nitrogen fertilizers.

Comment # 35.

Commenter: C118

The commenter states that one issue that has recently come up is MDE's enforcement of new NPDES criteria, without consideration of how the permits fit into the TMDL framework. Clearly, NPDES permits will play a role in the overall TMDL strategy and this should be clearly delineated in the

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Phase II WIP. However, counties face confusion over conflicting standards and possible litigation in the meantime. The Phase I WIP should make it clear that NPDES permits remain separate from TMDL requirements until the matter is settled during Phase II. In addition, the commenter requests clarification on whether NPDES requirements will vary on the basis of county population, how existing projects will be grandfathered, and how retrofit projects will be credited.

Response: The Phase I WIP reflected what we anticipate will be in future permits based on existing policies and approaches. The WIP provides a plan for achieving the nutrient reductions required by the TMDL, permits provide for implementation of the WIP and other changes need to implement the TMDL.

Comment # 36.

Commenter: C119

The commenter notes that recommended lifestyle changes for the general population to assist in the cleanup effort are missing from the WIP. While taxpaying individuals support many of the activities, homeowners need to recognize that their daily activities impact water quality. The commenter states that homeowner use of fertilizer needs to be addressed as it is growing, offsetting the declining agricultural use. The commenter supports a reevaluation of current University of Maryland Guidelines for lawn application of nitrogen which calls for up to 4 lbs of N per 1,000 square feet of lawn or 172 lbs of N per acre (equivalent to a farm corn yield of 172 bushels per acre). The University's minimum recommendation is 2 lbs/1,000 square feet or 86 lbs/acre. With increased Internet use the state should adopt a program to require homeowners to adequately assess their actual lawn acreage before buying lawn fertilizer and read and be tested on homeowner BMPs (septic care, energy saving devices, fuel economy, etc.) before getting a certificate of completion required for fertilizer purchases. The commenter suggests that lawn care fertilizer companies might be persuaded to provide coupons, not for the purchase of N excessive 4-step programs, but for passage of this Internet based education program, which would also be available in paper format at public libraries.

Response: Those discussions with the University to change the turf lawn fertilizer recommendations are currently ongoing.

Comment # 37.

Commenter: C119

The commenter notes that 23 of Maryland's soil conservation districts review and approve Erosion and Sediment control plans for construction activities. The commenter expresses concern that even though these plans are developed for construction sites, that implementation of these plans is inconsistent and in many jurisdictions are poorly enforced. Before embarking on additional regulations, the commenter believes that existing requirements should be enforced and credit for the potential nutrient savings be credited in the WIP.

Response: Local erosion and sediment control programs are delegated by the State and there is a process for rectifying program deficiencies during the delegation review process. Local programs that do not meet State standards can be denied delegation and the State will take over the inspection duties in those jurisdictions.

Comment # 38.

Commenter: C124

The commenter states that even where local stormwater programs have adequate funding sources to construct stormwater retrofits; these programs must have sufficient time to assess their retrofit opportunities and to plan projects. They cite the Little Pimmit Run Watershed Retrofit Plan in Arlington County, Virginia as an example. The plan assessed the retrofit opportunities in Arlington, Virginia, took nearly two years to complete. Most jurisdictions will need to complete a similar planning effort before retrofit work can begin. Retrofits without proper planning will be expensive

and ineffective. Local programs should be given time to find the most cost effective and practical ways to reduce pollution loads. Once programs identify retrofit opportunities, they need time to schedule the projects into their capital improvement budgets and to complete project design. Based on the commenter's experience, this process can take up to two years to complete. This would mean that the first retrofit projects might not begin until the fifth permit year. Furthermore, many local programs lack the capacity to manage the number of projects that would be required to achieve the interim goal of 20 percent. On the basis of these planning, process, and logistical constraints, local programs will likely fail to meet the 2017 interim goals as written. The commenter states that the permitting process for building retrofits is another barrier to the rapid implementation of retrofit requirements. Maryland must streamline the waterway and wetland joint permitting process, in conjunction with the Army Corps of Engineers, since these permit approvals often take six to nine months from submittal of engineering plans.

Response: MDE has been issuing MS4 permits since 1992 and has required the development of watershed assessments and restoration plans since 1999. Maryland's MS4s have been implementing stormwater retrofits for over a decade and have numerous restoration projects in the pipeline. While increased funding and staffing as proposed in the WIP will help local governments complete restoration requirements, Maryland's MS4's are currently capable of moving forward with watershed restoration projects toward meeting TMDLs. Restoration projects that take place in streams and wetlands will need permits for these regulated resources and MDE will work with local governments to coordinate and streamline this approach as much as possible.

Comment # 39.

Commenter: C124

The commenter points out that part of the stormwater retrofit planning process will require MS4 jurisdictions to assess their area of pre-1985 impervious surface and then plan appropriate projects to achieve the required percent treated. Future WIPs must clearly spell out how these areas are calculated and how the area treated is quantified to avoid confusion and inadequate implementation. As an example, the commenter notes that there are numerous areas in Rockville that were developed pre-1985 with some form of stormwater management prior installed while there are post-1985 properties that have less management due to site constraints. The definition should address what retrofits will count towards meeting a retrofit requirement. Such a definition is especially important considering the long range planning that will need to successfully complete all required retrofits. The sooner that program managers can enter their budget process with concrete requirements, the sooner funding will be made available to start retrofit projects.

Response: There has been a growing recognition by many federal, State and local officials to standardize the accounting of stormwater restoration practices required in NPDES stormwater permits. Providing standardized accounting procedures will ensure the fair implementation of stormwater permit requirements among jurisdictions. Also, standardization will provide local governments with a known target for planning and budgeting to meet permit conditions and Chesapeake Bay stormwater waste load allocations (WLA). MDE has proposed that stormwater retrofits should be designed to manage 1 inch of runoff for water quality using Maryland's Stormwater Design Manual. Retrofit projects that make sense to implement but can not be sized to meet the full 1 inch design criteria can be pro-rated for credit based on the runoff volume that the facility is capable of managing.

Many Phase I commenters noted that providing traditional stormwater retrofits (ponds and wetlands) in the urban environment is both costly and, often times, constrained. MDE recognizes these costs and constraints, and has decided to greatly expand the list of stormwater-related practices that will be available for credit. These include redevelopment, stream restoration, regenerative stormwater conveyance, street sweeping, inlet and storm drain vacuuming, litter control, environmental site design, and forest and streamside tree buffer plantings. Based on the monitoring of these practices

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and pollutant load efficiencies, "equivalent" impervious acres restored are being determined to guide local governments in meeting permit conditions for restoring impervious acres. A full discussion of this process and other water quality improvement projects currently under consideration can be found in Maryland's final Phase I WIP.

Recently, the SHA has estimated two scenarios for meeting the 20% impervious surface restoration requirement; one using traditional stormwater retrofits and another using the flexibility provided by MDE. The flexibility in implementing other less costly water quality improvement projects has led to an estimated 67% reduction in the cost that will be incurred by the SHA in meeting permit conditions. This flexibility will allow each jurisdiction to select a locally-preferred list of BMPs that will provide the maximum water quality benefit toward meeting stormwater WLAs while at the same time containing cost to the greatest extent possible.

Comment # 40.

Commenter: C125

The commenter states with respect to urban retrofits, there are a number of potential constraints to implementation beyond those related to funding and time. These include lack of a mechanism for requiring retrofits on private property and, in dense urban areas, a number of siting issues.

The commenter suggests in conjunction with local governments, that Maryland establish a study of potential physical constraints to implementation progress. This assessment should also incorporate the potential implications of climate change impacts on water quality, hydrology, and process effectiveness. This could provide another basis for initiating a Use Attainability Analysis as appropriate.

Response: MDE will continue to work with local governments to provide as many types of water quality improvement projects as possible for meeting stormwater WLAs. During this process, private impervious acres should not be discounted as an opportunity for managing stormwater runoff. Stormwater management utility fees, incentives for private land owners to implement stormwater retrofits, and redevelopment opportunities should all be explored. Additionally, local stormwater management ordinances and laws may be used to require more participation from the private sector. The UAA should only be pursued once all options for improving stormwater quality have been tried.

Comment # 41.

Commenter: C126

The commenter states that the WIP lacks sufficient details regarding performance of stormwater retrofits and restoration activities in urban areas. Such retrofits and restoration of urban lands is the cornerstone of the WIP to reduce loads from existing development, yet there is no clear indication of what actions must be taken to count toward these load reduction goals. The commenter states that Maryland must better articulate the kinds of practices that would be acceptable to retrofit untreated urban and suburban lands, and ensure consistency with existing regulations that require Environmental Site Design (ESD) and lower impact technologies and approaches to meeting stormwater treatment requirements. For example, urban retrofits should focus on the installation of decentralized practices that maximize infiltration, filtration, evapotranspiration, or reuse as treatment methodologies, and must strive to treat at least the water quality volume from the contributing area.

The commenter states that Maryland must ensure that all retrofits, whether as part of the MS4 permits to meet load reduction requirements for the TMDL, or required under the Stormwater Management Act as a condition of redevelopment, be adequately designed, installed, inspected and maintained. The state needs to describe how they intend to track and enforce these requirements to meet the 2007 law and the MS4 provisions.

Response: There has been a growing recognition by many federal, State and local officials to standardize the accounting of stormwater restoration practices required in NPDES stormwater

permits. Providing standardized accounting procedures will ensure the fair implementation of stormwater permit requirements among jurisdictions. Also, standardization will provide local governments with a known target for planning and budgeting to meet permit conditions and Chesapeake Bay stormwater waste load allocations (WLA). MDE has proposed that stormwater retrofits should be designed to manage 1 inch of runoff for water quality using Maryland's Stormwater Design Manual. Retrofit projects that make sense to implement but can not be sized to meet the full 1 inch design criteria can be pro-rated for credit based on the runoff volume that the facility is capable of managing.

Many Phase I commenters noted that providing traditional stormwater retrofits (ponds and wetlands) in the urban environment is both costly and, often times, constrained. MDE recognizes these costs and constraints, and has decided to greatly expand the list of stormwater-related practices that will be available for credit. These include redevelopment, stream restoration, regenerative stormwater conveyance, street sweeping, inlet and storm drain vacuuming, litter control, environmental site design, and forest and streamside tree buffer plantings. Based on the monitoring of these practices and pollutant load efficiencies, "equivalent" impervious acres restored are being determined to guide local governments in meeting permit conditions for restoring impervious acres. A full discussion of this process and other water quality improvement projects currently under consideration can be found in Maryland's final Phase I WIP.

Maryland's stormwater management law specifically details how BMPs are to be designed, reviewed, approved, installed, inspected, maintained, tracked and enforced, which can be found here:

<http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/Pages/Programs/WaterPrograms/SedimentandStormwater/swm2007.aspx>

Comments on Specific Strategy Options—Forest

Comment # 42.

Commenter: C117

The commenter (Choptank Tributary Team) requests that the State does not eliminate the *fee in lieu of payments* portion of the FCA and that this option should only be exercised if it can be proven that onsite and offsite mitigation are not possible. It costs more money to obtain land and mitigate than many Choptank River watershed local governments are charging for the fee and these governments do not have the staff expertise to carry out this process.

Response: Based upon overwhelming public input, the State removed the language regarding removing the fee-in-lieu program and has offered a contingency in Chapter 7 of the WIP document. Current language states, *“Strengthen Maryland’s FCA by requiring that State and local FCA programs be amended to require a “no net loss of forest” approach. DNR will work in conjunction with the Sustainable Forestry Council, local governments and other stakeholders, amendments can be crafted to meet this approach. The recommended approach would be to encourage forest mitigation banks and strengthen fee in lieu of payments where necessary to encourage banking. This approach would use forest mitigation banks to encourage the creation and retention of forests in areas providing the greatest benefit to local ecosystems and the Bay.”*

Comment # 43.

Commenter: C118

The commenter states that the *fee-in-lieu* program under the FCA allows counties to target larger tracts of ecologically significant forest and areas with designated use impairments, which would not be possible without the program. The result can provide a bigger net increase in forest acreage than if each individual development project had to do its own mitigation. Eliminating the program would remove a useful and effective tool from county governments.

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Response: See response to comment 42.

Comment # 44.

Commenter: C119

The commenter opposes eliminating the *fee in lieu* of FCA payments as this program has provided valuable resources to plant trees in several counties.

Response: See response to comment 42.

Comment # 45.

Commenter: C120

The commenter (Washington County) states that the proposed *no net loss of forest* strategy through changes in the FCA will have a significant negative effect on the effectiveness of the Washington County Forest Conservation Program. The Payment in Lieu option provides flexibility to the local program and the opportunity to target direct buffering of streams and associated water quality benefits. In cooperation with the Soil Conservation District, the County uses Payment in Lieu money to purchase easements on forest buffers and to plant new forests to buffer streams and waterways. The proposed alternative of forest mitigation banking would require upfront costs to landowners and limit financial and water quality benefits to property owners with qualifying forestland. It would also require additional local government effort for program management and tracking.

Response: See response to comment 42.

Comment # 46.

Commenter: C123

The commenter objects to removing the option for paying a fee-in-lieu to meet forest conservation goals. Many of the commissioners representing local governments stated that these funds are used to create a variety of water quality improving projects and eliminating the generation of these funds could have negative unintended consequences.

Response: See response to comment 42.

Comment # 47.

Commenter: C124

The commenter (City of Rockville) notes the WIP discusses potential amendments to the FCA that would prohibit local programs from collecting fee-in-lieu payments for projects not able to meet forest conservation requirements on site. Rockville supports the concept of no net loss of forest at a statewide level. In fact, Rockville's local tree preservation program is a model for other communities and has resulted in a 44 percent city-wide tree canopy. However, a prohibition of fee-in-lieu payments would have serious unintended consequences for the community. Rockville lacks the available private land to create forest mitigation banks, meaning that developers would have to secure forestry easements outside of the City limits, essentially exporting and likely reducing Rockville's valuable urban tree canopy. The City removed the option to meet forest conservation off-site several years ago when there no longer was adequate forest planting space on City parkland. In addition, the City has not allowed developers to use existing forest on City parkland to meet their on-site forest conservation requirements since the City deems these forests as already preserved. Through the collection of fee in lieu, the City is able to plant between 400 and 600 street trees per year while maintaining and protecting the existing forest canopy. Removing this source of funding would jeopardize Rockville's street tree and forest maintenance programs.

The commenter points out that Rockville's Forest and Tree Preservation Ordinance boasts some of the most stringent reforestation and afforestation standards in the state. Where these standards cannot be met on site, the City uses fees-in-lieu to plant and maintain trees within Rockville. Rockville lacks adequate space to create forest mitigation banks within its limits. Therefore, a strict application of a

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no net loss forest policy could actually decrease the number of trees in Rockville, thereby increasing the amount of urban stormwater discharged into the Potomac River and Chesapeake Bay. Maryland should continue to allow urban communities the flexibility to collect fee-in-lieu so they may implement successful local forest conservation strategies in the urban context and as a strategy to reduce urban stormwater runoff.

Response: See response to comment 42.

Comment # 48.

Commenter: C120

While the commenter (Washington County) supports the reforestation of rural land as an option to achieve the Bay goals, the County feels in order for this potential strategy to be successful two issues need to be overcome. The first issue is development of a public outreach program that will show the benefit of the program and address the mindset of many property owners that government is infringing on their property rights. The second is funding sources for this program to assist homeowners which do not qualify for the larger property track funding programs. Additionally, the County notes that this strategy calls for use of the GIS mapping of rural reforestation opportunities which traditionally relies on County staffing support to provide the detailed information. This will place additional staffing and funding requirements on the County's already limited general fund resources during the current economic conditions. The commenter feels that any options requiring an increase in county spending should be either offset through State funds or made optional for County participation.

The commenter states the County has a strong program and a good working relationship with SCD to assist in obtaining forest in priority areas along stream and many are in agricultural area, which meet two goals listed later in the WIP for agricultural land. While the WIP is recommending the use of forest mitigation banks, it says that funding would be private. That is true to the extent that the transaction between purchases from the bank and the bank owners, it does not address the funding necessary from the county. These banks need to be established with the review and approval of the county as well as monitored by the county to ensure the owners are maintaining them and planting them as required. Tracking them once established is also required to ensure the bank owner does not sell the property more than once.

While the County supports reforestation on public lands and sees this as a good alternative, the comments regarding usage of POS funding raises a concern. These funds have been reduced significantly over the past few years and the ability for the State to reinstate them and to limit the use of these funds for projects which meet the true intent of the POS program is a concern.

Response: If a good program exists, Maryland can try to find ways to maintain and expand it during Phase II. Part of Phase II will be funding strategies, and a strategy such as a reduced property tax rate for certain levels of reforestation combined with subsidizing the initial cost may be a very cost effective strategy.

Proposed Regulations

Comment # 49.

Commenter: C115

The commenter suggests removing the WWTP nutrient cap on non-significant WWTPs until funding for ENR is available and to require nitrogen reduction septic systems for all new systems.

Response: Nutrient caps or wasteload allocations are required by EPA in Phase I WIP for all major wastewater treatment plants. In addition, EPA requires aggregate load allocations for non-significant, i.e. minor WWTPs. Minor WWTPs are capped at the projected 2020 flow or design capacity, whichever is less. Only five minor facilities will be targeted for upgrades. Upgrades will also be

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required when any minor facility is expanding beyond its target loads. However, expansion of any WWTPs is not eligible for BRF funding, but it is eligible for low interest State Water Quality Revolving Loan funding. As with any new load increases, the Phase I WIP, as required by EPA, calls for offsets and/ or trading. The State and local governments will be developing State offset policy over the next three years.

MDP Response: See response to comment 29.

Comment # 50.

Commenter: C116, C121

The commenter requests that MDE include turbidity standards on its proposed standards and specifications for erosion and sediment control. Maryland does have such a standard in connection with its water quality standards. MDE has not yet included such a standard in its proposed ESC specifications. Maryland has required that ESC be included in its ESD stormwater management concept planning requirements so that stormwater and ESC planning will be undertaken together in the earliest site development planning process. Maryland also required turbidity standards in the Intercounty Connector road project of the SHA, one of the largest road projects to be constructed in Maryland in the last decade.

However, if the damage to streams from poor ESC during construction unravels the best stormwater planning and technical requirements, then nutrient reductions from stormwater will not be achieved. The commenter requests that the WIP state that ESC planning must include stronger stabilization requirements and that turbidity limits be established and be included in Maryland ESC and stormwater management. Although thus far the focus of most construction projects that have sought to meet turbidity limits has been on the use of chemical coagulants, the problem with this approach is that such coagulants must be applied by properly trained and supervised site operators, or they could harm aquatic life if they are allowed to be discharged into receiving waters, through incidents of mechanical or operator error.

Two of the most commonly-used coagulants, polyacrylamide (PAM) and chitosan, can be toxic to aquatic life species if improperly used. Other, effective options for turbidity control that do not entail the use of chemical coagulants are available; these consist of full integration of ESD site design methods into the up-front active construction phase, including the aggressive use of erosion prevention techniques such as site phasing and immediate exposed soil stabilization through thickly-applied mulch, hydroseeding, geotextiles and other methods; and the use of seep berms and level spreaders from effectively-designed sediment basins and traps that then discharge to preserved woods or meadows. The latter ESD features—*nonstructural landscaping infiltration* practices—then serve effectively as tertiary sediment filtration and polishing units.

The commenter notes that the Anacostia Watershed Society and Audubon Naturalist Society submitted comments to MDE on its draft Sediment control manual in October 2010 with detailed information on this non-chemical/ physical approach to turbidity control. The commenter adopts those comments.

Response: At this time Maryland is reviewing its sediment and erosion control requirements.

Comment # 51.

Commenter: C117

The commenter points out that horse manure is listed as a growing problem in the agricultural sector but none of the strategies in the WIP address this source. There is a horse manure composter pilot project going on through the Corsica Restoration project that shows promise for horse manure management on a small scale. The Manure Transport program listed as Option N on page 5-40 should include grants for equine manure transport as well as the existing assistance for poultry and dairy.

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Response: MDA would consider this option should sufficient resources be appropriated for the Manure Transport Program.

Comment # 52.

Commenter: C117

The commenter requests that Maryland develop a model ordinance to address design, construction and maintenance of roadside drainage systems for water quality management, for both existing and future State, county, and local road systems. Existing roadside ditches should all have vegetative buffers. The commenter requests that Maryland develop model ordinances addressing residential lawn fertilization management and stream/creek buffers for implementation by local governments, to meet the goal of Refined Urban Nutrient Management.

Response: Maryland has provided a model stormwater ordinance for local governments to follow, which includes managing stormwater to the maximum extent practicable through the use of environmental site design techniques. These practices include the many effective stormwater management techniques that the commenter requests. As a check on local programs, all stormwater management ordinances must be submitted and approved by MDE. Numerous State and local laws address stream buffer management and sheet flow to conservation areas and buffers is a major new tenet of Maryland's 2007 Stormwater Management Act. Fertilizer application is regulated and controlled by the Maryland Department of Agriculture.

Comment # 53.

Commenter: C117

The commenter requests Maryland reevaluate the adequacy of watercraft speed regulations with respect to chronic problems of shoreline erosion and re-suspension of fine sediments.

Response: Good comment. This probably comes down to increased enforcement in sensitive areas.

Comment # 54.

Commenter: C117

The commenter suggests that to further reduce nitrogen from atmospheric sources can be done by implementing state-wide automobile emissions testing and compliance. It would not only help air quality and nitrogen deposition, it would help create jobs.

Response: Emissions testing is expensive to establish and creates a difficulty for many citizens. It is currently required where it will do the most good. Expanding the emissions testing program to other areas would produce only marginal benefits from a Bay perspective.

Comment # 55.

Commenter: C124

Chapter Five of the WIP cites stormwater utility fees as a key source of funding for implementing the TMDL and based on experience, the commenter (City of Rockville) agrees. Utility fees, in addition to increased State and Federal funding, will be an important component of these funds. The commenter states that Maryland is not prepared to implement local stormwater fees statewide in time to meet 2017 interim goals. Legal uncertainty regarding the limits of authority, local political opposition, and technical impediments will prohibit most MS4 communities from adopting stormwater utilities in the near term. Therefore, if Maryland is to rely on local funding to restore the Bay, the State will need to act aggressively in reforming state law to require local utilities. The commenter requests that the State to provide technical assistance and funding to local programs to lower the technical barriers preventing the swift adoption of utility fees or other funding mechanisms.

The commenter notes that the first major impediment to creating local stormwater utility fees is the lack of clear legal authority under State law. The current law authorizing a system of charges is vague, disputed, and provides inadequate authority for local programs to fund the requirements of the

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WIP. For example, the MDE's Model Stormwater Utility Ordinance (2003) states that government owned properties may be assessed the stormwater utility fee. This guidance is contradicted by an opinion of the Maryland Office of Attorney General, which implies that stormwater fees cannot be assessed on government property. The lack of legal certainty concerning stormwater utilities as a fee for service prevents many communities from adopting or fully implementing utility fees. Secondly, many local jurisdictions lack the capacity and political will to implement stormwater utilities in time to meet the 2017 interim goals. If local jurisdictions wait until an acute funding need exists to investigate stormwater utilities, the long period of time required to design, adopt, and implement a program will likely mean that the 2017 interim goals will not be met. Similarly, many smaller stormwater programs lack the capacity to gather and manage the data necessary to create a utility. The MDE should act quickly to minimize this lag time by helping with the costly and difficult tasks of gathering impervious surface data and selecting a rate structure.

The commenter requests that Maryland enact legislation requiring local jurisdictions to adopt stormwater utility fees and that clarifies the responsibility of government to pay for the stormwater pollution it generates. Without such legislation, many local jurisdictions will not implement stormwater utilities until it is too late to meet the interim deadlines proposed in the WIP.

Response: MDE believes that the current Maryland law enabling local governments to initiate a system-of-charges for stormwater management is sufficient and that numerous local governments have used this authority to establish stormwater utilities. As a backstop, if local governments do not initiate a fee system on their own, Maryland is prepared to submit a bill in the 2013 legislative session that will require all local governments to implement a stormwater utility. Because a stormwater utility fee program can be more efficiently administered locally, jurisdictions should consider this option prior to State legislation.

Comment # 56.

Commenter: C126

The commenter points out that Maryland's BRF has been a model of success by creating a dedicated fund for pollution reductions. Since its creation in 2004, the modest fee on wastewater treatment and septic users has generated significant funding to upgrade the state's largest wastewater treatment facilities as well as fund septic system upgrades and nonpoint pollution control with cover crops. Unfortunately, initial cost projections have largely been exceeded as wastewater treatment facilities go through engineering, design, and construction. It is now estimated that the BRF will begin experiencing a structural deficit as early as 2012, short by more than \$500 Million.

The commenter suggest that the only solution that will ensure continuity in facility upgrades—and ensure both essential pollution reductions and compliance with the existing upgrade schedule—is to increase the BRF fee. Increasing the current monthly fee from \$2.50 per Equivalent Dwelling Unit (EDU) to \$5.00 per EDU will provide sufficient revenues to complete the task of upgrading all 67 major treatment facilities to ENR technology while still meeting the existing upgrade schedule. Since the Draft WIP relies heavily on point source reductions to meet its 2017 nutrient reductions, it is incumbent on the state to ensure that the necessary funding will be in place to provide reasonable assurance of achievement of these reductions.

Response: The final WIP calls for proposed amendment to Bay Restoration Fund statute to change fee to generate the necessary revenue to complete the ENR strategy commitment in 2012.

Comment # 57.

Commenter: C126

The commenter notes that the WIP correctly identifies existing, unmanaged stormwater as a key target for retrofit in order to reduce nutrient and sediment pollution from the developed sector. The State has laid out three possible retrofit requirements for inclusion in the Phase I MS4 permits as they come up for revisions and modification: 30 percent, 40 percent, or 50 percent, and has asked for

specific feedback. The commenter supports inclusion of the 30 percent retrofit requirement requiring MS4 jurisdictions to retrofit 30 percent of their currently untreated area during the permit term, which is consistent with the current Montgomery County MS4 permit. Achieving this level of retrofit within the five year permit term is an ambitious target. However, aggressive retrofits in our urban environments are necessary to restore stream health and reduce nutrient and sediment loads from developed areas.

The commenter notes that a primary obstacle that the state must help to overcome is the lack of sufficient dedicated revenues to specifically address the expensive needs associated with stormwater management and retrofits within existing urbanized areas. Most counties currently allocate minimal resources to meet basic stormwater program functions. Local jurisdictions need to develop and implement local stormwater infrastructure fees (based on the amount of impervious surfaces or similar mechanism) both to generate sufficient funds for infrastructure improvements and stormwater retrofits, as well as to fund ongoing inspections and maintenance of urban and suburban stormwater facilities. Much of the future TMDL implementation will fall on local governments; they therefore, must be prepared to pay for necessary upgrades, retrofits, and restoration work.

The commenter notes that the current statutory authority which allows local governments to impose such fees has largely been unused. The State must require the creation of local infrastructure revenue streams. The time has come for the state to legislatively require local jurisdictions with stormwater responsibilities to create local stormwater infrastructure revenue streams through an impervious surface fee or similar assessment of a user fee. Such a state requirement would ensure all jurisdictions have resources to help meet stormwater management requirements, while ensuring modest parity among jurisdictions fearful of going it alone. An additional incentive would be to directly tie State financial assistance—via grants, low interest loans, and technical assistance for stormwater infrastructure improvements, retrofits and related restoration work—to the establishment of a local stormwater revenue stream.

Response: All levels of government will need to increase funding for the Chesapeake Bay TMDLs to be realized. These options have been expounded upon in Maryland's final Phase I WIP. As the commenter notes, local governments can participate by establishing a stormwater utility. As a backstop, if local governments do not initiate a fee system on their own, Maryland is prepared to submit a bill in the 2013 legislative session that will require all local governments to implement a stormwater utility. Because a stormwater utility fee program can be more efficiently administered locally, jurisdictions should consider this option prior to State legislation.

Comment # 58.

Commenter: C126

The commenter states that the cost to reduce nitrogen and phosphorus from stormwater systems through retrofits is by far the most expensive among all sectors. Recent analysis by the World Resources Institute indicates that nutrient trading could save MS4s hundreds of millions of dollars per year. The commenter suggests that if MS4s could purchase nutrient credits for a portion of their waste load allocation, they could substantially reduce their compliance costs. The trading policy must be predicated on the protection and maintenance of local water quality and be constrained to local segments if receiving waters are impaired, in order for MS4 permittees to participate in Maryland's Phase I and Phase II (NPS) trading programs.

Response: The State will review and if needed update its Trading Policy to ensure consistency with final allocations and Phase II WIP. In addition, the State is considering feasibility of developing Phase III (Urban NPS Trading Policy) to address both cost and schedules of meeting MS4 TMDL waste load allocations.

Comment # 59.

Commenter: C126

The commenter states that because untreated urban and suburban stormwater must be addressed in order to reduce pollution loads from existing developed areas, the draft WIP must detail the efforts Maryland will pursue to expand retrofit requirements in Phase II permits. Additionally, Maryland must expand the scope of the MS4 program to include smaller jurisdictions with populations of 5,000–10,000. Many of these communities lack stormwater management and may represent meaningful opportunities for restoration and retrofits. The commenter suggests adding requirements in Phase II permits to retrofit 40 percent of untreated impervious acres by 2020 should also be included in the final WIP.

In addition to expanding stormwater treatment to even smaller areas of existing development, the commenter suggests that Maryland make significant improvements in their existing General Construction Permit in order to reduce stormwater pollution from active construction sites. General Permit requirements need to include clear rules for limited phased site grading, and much more rapid site stabilization than the current 14-day stabilization, as well as requirements for buffers on all active construction sites. In this regard, mandatory pollution prevention requirements would go a long way toward addressing a significant source of sediment and nutrients entering Maryland's impaired waterways.

Response: Final WIP expands 20% by 2017 retrofit requirements to Phase II permits (see Chapter 5 and Table 5.1). Implementation of retrofit requirements in MS4 Phase I and II jurisdictions will address over 90% of developed land. Therefore, expansion of the scope of the MS4 program to include smaller jurisdictions with populations of 5,000–10,000 is not expected to account for significant nutrient and sediment reductions. This option could be considered as a contingency or as a strategy by local governments during development of the Phase II WIPs. .

Comment regarding significant improvements in the existing General Construction Permit in order to reduce stormwater pollution from active construction sites has been noted.

Comment # 60.

Commenter: C126

The commenter points out that a recent draft report by USDA highlights that, although progress has been made on reducing sediment, nutrient, and pesticide losses from farm fields through conservation practice implementation in the Chesapeake Bay region, a significant amount of conservation management remains to be done to reduce nonpoint agricultural sources of pollution . Specifically, the report indicates that significant improvement is still needed in nutrient management (proper rate, form, timing, and method of application) throughout the region. About 81 percent of the cultivated cropland acres require additional nutrient management to reduce the loss of nitrogen or phosphorus from fields. The most critical conservation concern identified in the report is loss of nitrogen through subsurface pathways, most of which eventually contribute to surface water loads. This highlights not only the importance of cover crops, but also the need for Maryland to revise its nutrient management plan regulations to address the issues of rate, timing and method of application and identify the resources necessary to ensure their implementation. Furthermore, we note there is a severe technical assistance bottleneck for the development of comprehensive nutrient management plans for CAFOs. The commenter states that Maryland must devise a detailed strategy for achieving compliance and enforcement of these applicable state and federal regulations.

Response: Maryland's final WIP plan addresses the strategy for technical assistance. Data from the USDA report reflects conditions from 2001-2003. Maryland's nutrient management program regulations were promulgated in 2002. Additionally the results from the report reflect conditions bay-wide and Maryland has been the only state to require nutrient management plans on all farms.

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Additional efforts are being pursued to improve Maryland's nutrient management programs and compliance assurance activities are explained in the WIP.

Comment # 61.

Commenter: C126

The commenter notes that Maryland assumes that substantial nitrogen reductions from the agriculture sector will come from planting cover crops on more than 300,000 acres every year. The WIP outlines two scenarios for cover crop implementation—355,000 or 500,000 acres annually—but includes no details of necessary programmatic or regulatory changes to achieve either. Without such details on enforceable or otherwise binding mechanisms, the draft WIP fails to provide the required reasonable assurance that the state can accomplish the outlined reductions from cover crops. In recent years, MDA has increased per acre payment opportunities to incentivize early planting, planting of preferred grains, and cover crop planting after manure in order to maximize cover crop implementations. The commenter notes that this incentive-driven, voluntary program still struggles to increase participation to current 2-year milestone levels of implementation (325,000 acres/year by 2011); therefore, the state needs to look beyond voluntary or purely incentive-driven programs.

The commenter suggests that Maryland change its approach to implementing cover crops. Cover crops must be required on acres most at risk for nitrogen loss as a mechanism for raising rates of implementation and targeting limited cost-share dollars where the greatest environmental benefits can be gained. At a minimum, cover crops must be required for fields after corn and on acres that have received manure. These scenarios currently are eligible for bonus payments under the cover crop program because they represent the best opportunity for residual nitrogen uptake by a winter crop which would likely otherwise be lost to the environment. Roughly 470,000 acres of corn were planted in 2009 suggesting such a strategy of requiring cover crops on targeted high-risk acres could achieve annual implementation goals. Maryland's Water Quality Improvement Act and its implementing nutrient management regulations could be amended to require cover crops under specific circumstances, as an element of sound nutrient management. Only by amending the state law and regulations will Maryland have an enforceable mechanism to ensure that nutrient reductions could be counted on. Cost-share should remain available to these acres to help defray costs, but if necessary, per acre payments should be reduced to a level that would allow the state to offer financial assistance to all high risk acres.

Response: Maryland's WIP provides for continuation of the cover crop incentive program which together with BMPs will achieve more than twice the nutrient reduction levels assigned for agriculture. Maryland will explore other avenues for achieving goals if efforts are falling behind and certain mandatory requirements for cover crops will be considered.

Comment # 62.

Commenter: C126

The commenter points out that buffering waterways is one of the most important ways to reduce nitrogen pollution in rivers and streams. Maryland's Tributary Strategies recognize this by collectively calling for more than 93,000 acres of forested and grassed buffers on farm land, as well as fencing more than 11,000 acres of stream to prevent livestock access, and subsequently allow vegetation to reestablish and protect the streams. Unfortunately, progress on Maryland's first Milestone goals for forested and grassed buffers does not reflect the importance of these practices; as of May 2010, the state had met only 8 percent of its forested buffer milestone (245 of 3,000 acres) and about 17 percent of its grassed buffer milestone (0,196 of 7,000 acres).

The commenter suggests that Maryland require buffers on all streams statewide—both on farms and developed land—and target cost share funding to buffer implementation where they currently do not exist. Buffers provide long-term, highly efficient nutrient reduction and stretch the benefits of limited cost-share dollars beyond a single year. Furthermore, buffers provide myriad environmental benefits

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including habitat, stream temperature moderation (forested buffers), nutrient removal (2–8 times the nitrogen removal) via in-stream processing (forested buffers) and carbon sequestration.

The commenter suggests the state maximize use of Conservation

Reserve Enhancement Program (CREP) and Maryland's Agricultural Cost Share Program (MACS) Program to implement and maintain buffers on farm land, especially those adjacent to impaired waterways and on highly erodible lands. An opportunity for achieving greater buffer retention and restoration on developed lands would be upgrading the FCA to a true no net loss standard, by increasing mitigation requirements and targeting additional plantings to riparian areas. To achieve such a target, the FCA could be amended to allow a higher credit assignment to reforestation or afforestation of riparian areas than reforestation or afforestation that takes place away from streambeds. Fees-in-lieu collected through FCA mitigation should also be focused on replanting and expanding riparian forest areas as well.

Response: The State is already maximizing CREP and MACS. Maryland farmers have already installed 22,000 acres of forest buffers and 46,000 acres of grass buffers. Maryland is on track to meet the 2017 agricultural buffer goals.

Comment # 63.

Commenter: C126

The commenter notes that traditional septic systems rely largely on technology that is more than 100 years old. When improvements are made to homes, modern building codes must be considered, and systems must often be upgraded to comply with more advanced standards for health and safety. The commenter asks why Maryland should continue to allow the routine replacement of failed septic systems with antiquated technology that pollutes surface and groundwater, and threatens public and environmental health. Maryland's WIP must include new requirements that any new onsite system and all replacement septic systems must be required to include nitrogen removal technology.

Response: The technologies currently used for replacing septic systems do an excellent job of protecting the public health; however it is true that they remove little to no nitrogen. As noted in the response to comment 30, MDE is developing options to require wider use of nitrogen reducing septic systems.

Ideas for Alternative Practices

Comment # 64.

Commenter: C115

The commenter suggests treating Smart Growth development as an implementation strategy with credit for: relieving growth pressure elsewhere, reducing GHG Emissions and energy consumption, and reducing VMT.

Response: See response to comment 13.

Comment # 65.

Commenter: C117

The commenter requests that there is more accounting for existing BMPs that are not NRCS approved, such as voluntary practices.

Response: Voluntary implementation is now being tracked by MDA through Conservation Tracker and will be credited in the future. In general, BMPs not approved by NRCS need to have an efficiency applied and approved through the Bay Program in order to know how much credit to give. The voluntary non cost-shared agricultural BMP is part of the contingency option.

Comment # 66.

Commenter: C117

The commenter states that septic goals (Section 5.2.4) should include a requirement for all new systems to be BAT, not just those in the Critical Area. This cost should be considered in the cost of building a new home outside of a sewer area. In addition, failing systems should be allowed to hook into an existing ENR WWTP, but only if there is excess capacity and strong restricted access regulations that prevent sprawling growth. The commenter requests that Maryland develop a model septic system management program structured as a self sustaining utility for adoption and implementation by local governments.

The commenter suggests that Maryland should use the existing technology of low altitude infrared thermal photography for identifying failing septic systems. The information would greatly assist governments to prioritize funding. Special attention should be paid to areas with high water tables, because the technology will not be able to differentiate between groundwater seepage and septic failure.

Response: Comments noted. As noted in the response to comment 30, MDE is developing options to require wider use of nitrogen reducing septic systems.

Comment # 67.

Commenter: C117

The commenter requests that the Critical Area buffer should be applied to all natural waterways in the Bay watershed, not just tidal areas. Existing Critical Area buffer requirements should be enforced more consistently and violations could be identified with aerial photography.

Response: MDE is beginning to look at how aerial photography can be used to find various pollution sources.

Comment # 68.

Commenter: C117

The commenter suggests that the state should promote and regulate the sale of non-P containing and slow-N release lawn fertilizer and their use by professional lawn care companies.

Response: The referenced strategy is included in the final submission.

Comment # 69.

Commenter: C119

The commenter states that nutrient efficiency has the potential to provide the most economic and viable method for farmers to assist the state in meeting TMDL requirements. Increased productivity with reduced inputs will allow farmers to reduce nutrient loss while still providing food. The commenter supports a subtraction modification for GPS equipment, variable rate nutrient application equipment, vertical tillage equipment, infra red sensor equipment and other new technology advancements to assist farmers as they move towards more efficient use of nutrients.

Response: Maryland farmers are moving towards technologies that maximize nutrient savings and meet crop needs. The state and federal cost-share program support this effort. Many of these were proposed but the efficiencies need to be quantified and approved through the Bay Program before credit can be given.

Comment # 70.

Commenter: C119

The commenter points out that the WIP is missing the role that oysters and other filter feeders play in filtering nutrients that, even with the state of the art technology, are released into the Bay. Oysters once filtered the Bay every day and a half, if this was still the case required load reductions would be reduced and more economically achieved.

Response: Filters feeders are important to the Bay fisheries ecosystem and species such as oysters, menhaden, are being evaluated for their ability to reduce nutrients. Currently the Chesapeake Bay Program has no mechanisms to calculate their benefits and we are looking at methodologies to correct that.

Comment # 71.

Commenter: C124

The commenter suggests that the MDE can decrease the time lag between when NPDES jurisdictions receive their permits and the construction of retrofits by helping local programs assess their retrofit opportunities quickly and accurately. This assistance should include funding to hire contractors to prepare assessments, or for larger jurisdictions with more capacity, technical guidance on how to assess retrofit opportunities. In addition, MDE should provide assistance to local programs so they may measure the performance of completed watershed improvements, which will help better guide the design and locations of future retrofits.

Response: Existing State programs such as a State Water Quality Revolving Loan Fund and 2010 Trust Fund already provide low interest loans and grants to local governments for planning, design and construction of needed retrofits. Local governments and their consultants could use these funds to assess their retrofit opportunities while developing required watershed assessments and watershed implementation plans to meet TMDL.

Maryland's Stormwater Management Act of 2007 requires that any new development greater than 5,000 square feet implement environmental site design (ESD) to the maximum extent practicable (MEP) to replicate woods in good condition. Current Maryland law and regulations require that ESD be used to the MEP to control stormwater from new and redevelopment. MDE developed and adopted technical requirements for ESD and defined the MEP standard in Chapter 5 of the 2000 Maryland Stormwater Design Manual (Manual). The final WIP highlights performance standards and planning techniques and practices to be considered and implemented to replicate runoff characteristics similar to "woods in good condition." The practices include alternative surfaces (green roofs, permeable pavements, and reinforced turf), nonstructural practices (disconnection of rooftop and non-rooftop runoff and sheetflow to conservation areas), and a list of nine different micro-scale practices.

MDE provides technical assistance and training to local programs. The comprehensive plans review process detailed in Chapter 5 requires that plans be submitted for review and approval during the Concept, Site Development, and Final Design stages. This is an iterative process that builds upon each stage of design to provide a stormwater strategy that considers the unique characteristics of the site. This ensures that all reasonable options for implementing ESD are exhausted in the early stages of design in order to comply with the MEP standard.

Comment # 72.

Commenter: C126

The commenter points out that innovative approaches to meeting nutrient reduction in our agricultural sector are a key ingredient of a successful WIP and points out an innovative approach not included in the draft WIP. This is the conversion of marginal crop land to permanent vegetative cover. The benefits of permanent vegetative cover, including hay, pasture, and specialty crops such as orchard trees, vineyards, or perennial grasses for energy production, cannot be over-stated. Covers such as hay or pasture grasses, require much lower fertilizer inputs, and in the case of hay, could be highly valuable to Maryland's growing equine industry.

The commenter points out that this kind of permanent cover can be undertaken as a whole-farm transition to a different farm system, or as an opportunity for diversification on existing grain land, with hay or grasses grown on marginal land. The commenter supports the use of funds from the

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current cover crop program to support these kinds of transitions to permanent cover, as a related practice that has longer-term benefits for a farm.

Response: Maryland Department of Agriculture has a number of programs to support conversion of traditional cropland to alternative uses, permanent cover and conservation cover.

Funding and Resources

Comment # 73.

Commenter: C116

The commenter states that while Maryland has a history of authorizing local governments to establish stormwater program funding sources or utilities, very few such funding devices have been established. For the last several sessions of the Maryland General Assembly, legislation requiring local funding sources has been introduced and has not yet been enacted. The commenter supports such legislation and requests that Governor O'Malley support it. Such support will enhance greatly its chance of passage.

The commenter offers these comments on the draft Maryland WIP as part of their continuing advocacy of all efforts to reduce the pollution of and physical damage to Maryland's waterways caused by stormwater runoff. The commenter states they will continue to be engaged in the process to establish meaningful stormwater management in Maryland as the WIP, MS4, TMDL, and local stormwater program efforts gather momentum.

Response: It is anticipated that now that the WIP is complete there will be even more pressure for funding and stormwater utilities serve that option. If funding vehicles are not established, the state will move to make them mandatory.

Comment # 74.

Commenter: C117

The commenter states that resources should be increased at MDA to build staff capacity for enforcement of Nutrient Management Plans, Maryland Agricultural Cost Share reviews, MACS spot checks, and the Manure Transport Program.

Response: Agreed, Maryland's final WIP plan outlines the funding strategy to increase staff capacity.

Comment # 75.

Commenter: C117

The commenter suggests Maryland consider tax credits for existing properties for implementation of vegetative buffers along streams and tidal shorelines.

Response: Maryland will investigate the opportunity for tax credits for installing buffers along streams and it can be discussed on a county-by-county basis in Phase II.

Comment # 76.

Commenter: C118

The commenter states that the estimated costs of implementing the TMDL requirements and achieving the target loads are enormous. In Maryland, costs for potential stormwater retrofits alone could run in the billions. Even in prosperous times that figure would be daunting, but when the State's local aid has been significantly reduced and counties are still feeling the effects of the recession, it becomes unattainable. Some counties anticipate having to double their planning staff. There is no way certain counties could raise taxes or fees to a level that would cover their anticipated TMDL costs. The commenter (MACo) advocates for federal aid and states that the WIP address some revenue source to cover the implementation and reporting/tracking costs for counties. The General Assembly will likely consider an increase to the BRF in the 2011 Session, but this only addresses a

small piece of the total cost. Cost is a critical practical factor that must be addressed in order for the State and counties to reach their TMDL goals.

The commenter points out that in addition to the significant cost burdens imposed by the TMDL on local governments, there is also a need for technical assistance. Local governments lack the scientific expertise necessary to fully comprehend the impacts of the many nutrient reduction strategies that will be proposed and implemented. As previously noted, counties expect the private sector and even some in the public sector to propose many new and innovative strategies for achieving the TMDL goals and they need help to analyze the effectiveness of these strategies and develop adequate tracking systems. The WIP must provide a system for State technical support to county governments.

Response: The commenter presents a legitimate concern. Maryland will seek solutions that can best address these challenges during Phase II and successive legislative sessions.

Comment # 77.

Commenter: C119

The commenter states that the Phase I WIP and the whole TMDL process and implementation may be a good exercise in laying out what needs to be achieved to meet the state's water quality goals, it will not occur without adequate technical and financial resources for Maryland agriculture. Maryland's 24 soil conservation districts have worked diligently to bring our agricultural community forward to reach 50 percent of the goals set out for them under the 2000 Bay agreement. The commenter states that progress is occurring towards meeting the two-year milestones, however a limitation is not unwilling farmers, but adequate staff. Given adequate staff, the limitation may become financial resources in the form of cost-share funding, but today our biggest limitation is adequate staff. Had the state shown a commitment to the staffing levels of 110 field staff established in the Water Quality Improvement Act of 1998 and reaffirmed in the Agricultural Stewardship Act of 2006, the commenter believes that Maryland agriculture would be well above that 50 percent achievement level. Today, having a more aggressive schedule to meet and a recent staffing assessment carried out in January 2010 shows that rather than the additional 33 staff necessary to meet the 110 field positions to meet the TMDLs and Tributary Strategy goals, that the districts need another 98 full time employees for a total of 175 field personnel.

The commenter provided feedback to the MDA that although the 2-year milestones are ambitious, they believe that given adequate resources they are achievable. As the Phase I WIP focuses on these same milestones to reach its goals, we continue to believe the plan is doable, however, given current resources it will not.

The soil conservation districts remain committed to be the local delivery system for agricultural programs to help the state achieve the TMDL goals. The commenter's plan is to work with the agricultural community through the Phase II process to ensure that Maryland's agricultural working lands remain viable and productive, while meeting water quality goals. Maryland cannot place our farming community at an economic disadvantage to other farmers across the nation and expect continued cooperation. The commenter notes that farm commodities are not priced at the farm, but rather international pricing dictates the return a farmer receives. Enhancing farm profitability will in fact improve water quality as profitable farms have available resources to install new practices and focus on conservation. It is also important to note that it is farmers that own and maintain most of the forest land that is credited with being the best land use for the Bay. When farms cease to be viable and are sold that not only is the agricultural land sold for development, but also the forest land incorporated within that farm.

Response: The Bay Cabinet recognizes this concern. The final submission offered some ways to begin addressing this problem.

Comment # 78.

Commenter: C120

The commenter (Washington County) supports upgrades to the major WWTPs and feels it is imperative that these projects continue to be fully funded. The Washington County Administrator is the chair of the BRF Committee and is working with the members of the committee and MDE staff to develop mechanisms to accomplish this task. The commenter asks that the State continue to support the tasks of this committee and work to accomplish full funding of the ENR Grant Program.

Most large minor municipal WWTPs serve rural municipal or rural village areas and have a small revenue base to cover expenses, especially projects of the multi-million dollar ENR upgrade type. Therefore, a program of this nature should be voluntary and receive full funding of eligible costs from the State. The WIP document does acknowledge the need for BRF funds, however, in addition to BRF funds, Biological Nutrient Removal (BNR) monies will need to be budgeted for these facilities as well. The State program has been that BNR funds will pay for 50 percent of the eligible costs to upgrade the plant to BNR treatment level and 100 percent of the eligible costs to provide the additional upgrades for ENR treatment level. A modification of the State program to provide 100 percent ENR funding for all costs associated with upgrading the facility from a conventional level to the ENR level would be supported and recommended for these smaller facilities due to the economic impact created on a small user base.

The commenter emphasizes the need for funding sources to address the elimination of SSOs, especially in communities with limited revenue streams.

Response: Comment noted. The State will evaluate a proposal to provide 100 percent ENR funding for all costs associated with upgrading the facility from a conventional level to the ENR level for smaller facilities due to the economic impact created on a small user base. Elimination of SSOs, especially in communities with limited revenue streams, is being funded by various MDE's capital funding programs, including SRF and Supplemental Assistance programs.

Comment # 79.

Commenter: C122

The commenter (Harford SCD) expresses concern that the ability to achieve the tasks set forth within the WIP Phase I without the proper number of staff. In January 2010, a staffing assessment was performed and the results concluded that an additional 33 staff were needed to reach the 110 field positions that are required under the current state law. Funding of these positions will provide the resources that the Soil Conservation District to conduct the efforts of reaching the 2 year milestone goals for 2011 and beyond.

Response: See the responses to comments 60 and 77.

Comment # 80.

Commenter: C123

The commenter believes that process to implement this plan will include a multitude of Capital Improvement Projects (CIP). These projects take a number of years to get funded and built. The commenter is concerned that the timeframe of the Phase I WIP will not allow for many CIPs to help reduce target loads.

Response: Permitting agencies will need to work together to maximize what can be done in the time allotted.

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Comment # 81.

Commenter: C123

The commenter states that the resources available at the state and local level are not adequate to implement the Phase I WIP and that increases in budgets and staffing will be required in all sectors for the goals of the Phase I WIP to be met.

Response: See response to comment 77.

Comment # 82.

Commenter: C123

The commenter points out that in looking at the goals to reduce nutrient inputs to the tributaries of the Chesapeake Bay it is clear that WWTP upgrades are essential to our success. It has been suggested that the Bay Restoration Fund may fall short of the funding level necessary to continue upgrades to the largest of the WWTPs statewide. The commenter cannot emphasize strongly enough that funding levels must remain where they must be in order to complete all of the planned upgrades if we are to meet the water quality reductions outlined in the Phase I WIP. While this sum of money is rather large, the commenter believes that these upgrades represent the most cost effective strategy for nutrient reduction.

Response: Comment noted.

Comment # 83.

Commenter: C125

The commenter states that the WIP does not address affordability, cost-benefit considerations, or the availability of funding for implementation. The absence of financial considerations leads us to question whether the load reductions specified by the proposed source allocations are financially feasible. The importance of such financial considerations will become more obvious during the development of the Phase II WIPs. The commenter states such levels are unachievable without a significant amount of cost-share assistance. Moreover, on a cost-per-pound basis, urban stormwater retrofits are among the most costly ways of reducing nutrient pollution compared to other practices.

Response: Additional information on cost and cost effectiveness was added to the final submission. An important part of Phase II will be funding strategies.

Comment # 84.

Commenter: C125

The commenter (Metropolitan Washington Council of Governments) states that the existing funding mechanisms are insufficient to meet the proposed project implementation schedules in some jurisdictions, and the time required to augment funding may result in implementation delays. Federal and State leadership to assure funding support for local WIPs is necessary to meet the timelines currently proposed for Bay watershed restoration. In particular existing funding mechanisms are insufficient to meet the WIP assumption that 60/70 percent of progress toward final allocations will occur by 2017 or that 100 percent of all necessary implementation will occur by 2025. The funding shortfall is exacerbated by the current economic downturn. According to both the National League of Cities and the National Association of Counties, their member governments continue to reduce their budgets from 2009–2010 levels. The WIP proposals to achieve a 30, 40, or 50 percent retrofit of existing older developed areas in Phase I MS4 communities by cannot be achieved in these time frames without substantial federal and/or state funding assistance.

The commenter provides the following example: Various parties have recently tried to estimate the costs of stormwater retrofitting. These estimates are subject to a great deal of variability because there is to date insufficient experience with actual retrofit projects in the region and because there is not a clear-cut definition of what is meant by the term. For the Council of Governments' Maryland and Virginia members, staff estimated the total amount of pre-1985 urban pervious and impervious acres

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using Version 5.2 of the watershed model. Using a fairly conservative average cost of \$88,000/acre from the Center for Watershed Protection, staff estimated the cost of retrofitting 50 percent of this acreage at \$5.45 billion in initial capital costs. This estimate did not take account of the annual operations and maintenance costs for new facilities nor for the cost of acquiring land, since retrofitting at this extensive level cannot be accomplished strictly with projects on public land. Nor does it account for whatever retrofit requirements may be imposed on pervious land.

The commenter notes that both the wastewater and agricultural sectors have received and continue to receive significant federal and/or state support for implementation. Urban stormwater, by contrast, has received little such funding. The commenter recommends that the proposed urban stormwater cost analysis be matched with a concrete proposal for federal and state support for retrofitting stormwater controls. One possibility is to resurrect the proposal for a federal-state financing authority for the Bay that was originally advanced by the Chesapeake Bay Blue Ribbon Financing Panel in 2004 and that would be capitalized by \$15 billion in federal and state matching funds. If such support is not forthcoming, and no changes are allowed to be made to the current deadlines, it is likely that we will subsequently recommend initiation of a Use Attainability Analysis, based on the questionable feasibility, economic and otherwise, of urban stormwater retrofitting.

Response: While permit requirements assure implementation, the State recognizes the significant cost for stormwater controls and commits to two additional implementation strategies as follows:

State and Local Revenue:

State law enacted in the 1982 authorized local governments to collect fees (e.g., plan review, inspection, grading fees, etc.) to implement stormwater management programs. In 1991, Maryland enacted a law authorizing local jurisdictions to develop a “system of charges” or a stormwater utility. To date, five jurisdictions (e.g., Tacoma Park, Montgomery County, Prince George’s County, City of Rockville, and City of Annapolis) have enacted these fees to fund stormwater projects. State legislation proposed during 2010 would have required each county and municipally to establish a “stormwater remediation fee” and create local “watershed protection and restoration funds” to pay for implementation of local stormwater management plans. The legislation did not pass.

In 2011, the State will convene a formal discussion with stakeholders to identify potential options for adequate revenues, a period of time for research, development and enactment of local revenue systems. To assist with start-up costs, MDE offers financial assistance through low interest loans involving the State Revolving Loan Fund, to create these fee systems. MDE also offers a delayed payment plan contingent upon starting a “system of charges.” Grants may also be made available in a cost sharing arrangement. In addition to stormwater fee systems, local governments may use volunteers to implement various labor-intensive elements of programs. Other funding may include a combination of State Revolving Loan Fund, the Chesapeake Bay 2010 Trust Fund, local, community and non-profit funding, regulatory fees, and various other grant funding.

In addition to convening a formal discussion with stakeholders to identify potential options for adequate revenues, a period of time for research, development and enactment of local revenue systems, and assisting with start-up costs, and providing delayed payment contingent upon starting a “system of charges.” MDE will also convene a group of experts to identify the most cost effective practices to achieve retrofit requirements. For example, the State Highway Administration has estimated using the most cost effective practices may reduce its costs by as much as two-thirds.

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Controlling costs by using alternative means of achieving nutrient and sediment reductions is an option available to local governments. These alternatives may include funding reductions from non-urban stormwater sources pursuant to State and federal trading programs. This will not relieve the stormwater sector from other restoration goals that have longer time horizons, but rather, is designed to allow the stormwater sector to meet nutrient and sediment goals sooner than would otherwise be financially feasible.

Finally, MDE has formed an NPDES Stormwater Workgroup composed of local jurisdiction staff to research new and innovative water quality treatment practices. MDE's goal is to develop a robust group of urban BMPs that can be implemented to ensure that Chesapeake Bay TMDLs and water quality standards are met. Maryland's NPDES Stormwater Workgroup is eager to work with the EPA to help develop appropriate efficiencies for ESD to the MEP, stream restoration, coastal plain step-pools, and other urban BMPs that EPA has yet to assign efficiency values.

Federal Revenue:

The federal government has also long recognized the stormwater funding need. By way of example, the Clean Water Needs Survey designed to assess water related infrastructure needs includes stormwater projects. The State will pursue federal funding for stormwater projects on three tracks:

- 1) In 2011, Maryland will ask its Congressional delegation to work to pursue the authorization for federal funding for the Chesapeake Bay jurisdictions through either pending or new legislation;
- 2) In 2011, Maryland will also work directly with federal agency representatives to refine cost estimates, conduct local financial feasibility analyses, determine the federal share of stormwater costs and develop a strategy with a time line to secure federal share of funds. The outcome will be documented in Maryland's Phase II WIP. Maryland will also ask its federal facilities to enter into a schedule providing for stormwater controls and retrofits on a schedule similar to that required of local governments;
- 3) In 2011, Maryland will request that the U.S. Army Corps of Engineers formally pursue the necessary prioritization of stormwater projects in Maryland within its capital project improvement plan.

Tracking and Accountability

Comment # 85.

Commenter: C116, C121

The commenters state that Maryland stormwater law require that every three years MDE reviews each delegated local jurisdiction's stormwater program to determine the efficacy of implementation. However, such reviews have been behind schedule for almost a decade. In addition, MDE and local jurisdiction inspection of erosion and sediment control and stormwater implementation historically have been under staffed and underfunded. There can be no assurance that ESC and stormwater programs will succeed if such review and site inspections are weak. The commenter strongly urges that the Maryland WIP requires that the review and inspection requirements be met and that if they continue to be unmet then Maryland be subject to EPA auditing and possible programmatic sanctions.

Response: A primary purpose of the triennial review is for MDE to provide technical outreach for improving local programs. Maryland's stormwater management law has undergone significant modification in 2000 and then again in 2007. Local programs have been investing significant time in updating ordinances and establishing procedures for ensuring that the new regulatory requirements for water quality and ESD to the MEP are met. MDE has fulfilled its role in providing technical outreach by meeting with each jurisdiction; providing a model ordinance for adoption; reviewing and approving all local ordinances; conducting BMP maintenance inspections with local jurisdictions; and providing guidance documents for inspector training. The 2007 Stormwater Management Act became effective on May 10, 2010. MDE's outreach to local jurisdictions has continued through the

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publication of design examples and the intent to hold design seminars with the regulated jurisdictions. Once these programs are up and running, MDE can perform outreach and training through the triennial review process. As part of the Maryland WIP MDE has identified need for additional resources in order to implement our existing regulatory programs.

MDE has the regulatory authority to ensure both stormwater management and erosion & sediment control programs are implemented at the local government level. As part of the Maryland WIP MDE has identified need for additional resources in order to implement our existing regulatory programs. Under the EPA delegation and grant conditions related to the NPDES program, Maryland is already subject to EPA auditing and possible programmatic sanctions if it fails to perform required permitting, inspection and enforcement activities related to stormwater associated with construction activities and industrial and general stormwater permits. MDE takes these obligations very seriously and strives to meet all delegation and grant commitments on a continuing basis. The 2009 general permit for stormwater associated with construction activity emphasizes the requirements for self-inspection and keeping a log book about the inspection findings by responsible parties for construction sites. It also includes new requirements with triggers for additional actions if there is actual sediment pollution observed on a construction site.

Comment # 86.

Commenter: C117

The commenter suggests that a comprehensive assessment should be made on the implementation and enforcement of existing regulatory programs addressing pollution sources. Specific corrective action should be also identified and prioritized.

Response: See response to 85

Comment # 87.

Commenter: C117

The commenter states that there needs to be a clearer picture of accountability pathways in the WIP. The commenter asks who will be responsible for which practices, and who would they report to. Once people know what they have to do and who is enforcing that, the Plan will be much clearer.

Response: That level of detail will be worked out in Phase II because much of it begins locally.

Comment # 88.

Commenter: C117

The commenter suggests that Maryland create a state or watershed wide tracking database that all local jurisdictions would update monthly. Updates would include information on actions that had been implemented that add or reduce nutrients and sediment entering the system. There could also be an aspect of the system for private landowners to enter voluntary BMPs implemented.

Response: A state or watershed wide tracking database exists and EPA is enhancing one at the federal level.

Comment # 89.

Commenter: C117

The commenter is interested in stronger enforcement of urban nutrient management laws and additional financial resources put toward MDA and MDE to accomplish that goal.

Response: Additional enforcement is at least partially dependent on additional staffing. In addition, although many of us can point to enforcement failures, most people follow the law and the actual amount of additional reduction that comes from additional enforcement is relatively small.

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Comment # 90.

Commenter: C118

The commenter states that if many tools are made available to the counties, then there also needs to be consideration of how to account for those tools. The Chesapeake Bay Phase 5 Watershed Model continues to show improvements and refinements over previous versions, but ultimately the Model is still limited, being subject to inaccuracies and best guess estimates. Given that the Model is still imperfect but that county governments are being asked to undertake precise nutrient reduction tracking, the WIP must show some flexibility in allowing counties to present data and that may not be incorporated or accounted for by the Model. For example, nitrogen and phosphorous data used for some of the counties, such as Queen Anne's, is outdated and predates many of the best management practices currently being employed. In short, the Model should not be the sole measure of data analysis.

Response: The precision of the tracking is based on acres implemented with practices and is not a modeling exercise. The model does estimate the resulting nutrient reductions. In general, the model takes into account relevant local factors like soils and slopes when calculating the overall nutrient reductions.

Comment # 91.

Commenter: C122

The commenter requests that a system be developed to include voluntary BMPs into the Bay Model. Farmers need to receive credit on the BMPs that are installed without enrolling in a NRCS or MDA program. These practices are noteworthy efforts by farmers to control runoff and erosion, which are currently being overlooked. Agricultural producers are required to obtain a NMP for all nutrients that are added to their farmland. This is documented each year with the submittal of the Annual Implementation Report to the MDA. Tracking this information is an important factor of the Bay Model. The commenter notes that farmers are not the only end-users of nutrients to soil: homeowners, lawn care companies, golf courses and public lands (recreation complexes) use nutrients through commercial fertilizer.

Response: MDA is working on this using Conservation Tracker also see response to comment 65.

Comment # 92.

Commenter: C125

The commenter believes the state should allow local governments to use other approaches than use of the Bay's watershed model to assess their implementation progress.

Response: EPA is responsible for assessing progress and they must do it uniformly across the entire Bay Watershed. This requires a consistent approach that is only provided by the Bay model.

Comment # 93.

Commenter: C125

The commenter states that it has been known for many years that actual water quality improvements lag behind BMP implementation due in part to the gap in time between implementation of many land-based practices and their impact on surface water quality. The current language fails to make these distinctions clear, so that expectations of progress may not be realistic and or may be misunderstood by citizens. The WIP should clearly state that progress toward attainment will be measured by progress toward the implementation levels EPA and the states estimate is necessary to eventually achieve water quality standards and that progress in improving actual water quality may lag behind this implementation progress.

Response: The commenter makes a good point in distinguishing different time frames for implementation progress as opposed to measurable progress in water quality improvements.

However, the goal of the WIP is focused entirely on achieving the nutrient reductions identified in the

Bay TMDL as necessary to meet water quality standards designed to protect the living resources of the Bay. Meeting those standards through the implementation strategies identified in the WIP will result, over time, in improved water quality throughout the Bay. It is not possible to gauge where or when any given impaired segments in the Bay's mainstem or tidal tributary waters may show measurable improvement through continuous water quality monitoring, either during the extended period of ongoing implementation efforts or thereafter.

Miscellaneous

Comments 94 – 95 were addressed in re-writes or other edits of the Phase I final submission.

Comment # 94.

Commenter: C117

The commenter points out on page ES-4 and other locations, the wording “Maryland’s interim target goal is 70 percent of the final target by 2017” is confusing and it might be more less confusing to state, “Maryland’s interim goal is reduction of the target load gap by 70 percent by 2017.”

The commenter states that it is confusing that *Current Baseline Loading* is referred to as *2009 Progress* in the tables with no explanation. The word *Progress* seems to signify that there has been an improvement from a different baseline and makes the reader want to know, what baseline is. The commenter suggests that it should just read *2009 Baseline* in the tables.

Response: Comments 94 – 95 were addressed in re-writes or other edits of the Phase I final submission.

Comment # 95.

Commenter: C117

The commenter request that the document be proofread before final submittal and points out some typographical errors:

- On page ES-7 in the table titled Maryland’s Estimated 2009 Baseline Compared to Target Loads, the phosphorus reduction is listed as 17.6 percent but on page ES-9 in the next to last paragraph the phosphorus reduction percentage is given as 13.7 percent. Which one is correct? The same discrepancy occurs on page 4-3 in the first paragraph of section 4.2, where 13percent is given as the reduction target from the 2009 baseline load. Is it possible that the sediment reduction goal (13 percent) was inadvertently used for Phosphorus in those cases?
- On page 4-3, the second sentence contains a reference to Table 3.2 but it should be Table 4.2 instead.
- Under section 5.2.2 Urban Stormwater Loads, option “F” comes before option “E.” Under the same heading in option “D,” (page 5-25) University of Maryland Cooperative Extension should be changed to read “University of Maryland Extension.”
- Under the heading Base Programs that Provide Annual Reductions (pgs 5-31 and 5-32), there are two options labeled “C.”
- On page 5-27, under section heading 5.2.3 Natural Filters, the first sentence is incomplete.
- In section 5.2.5 Agriculture, the numbering of the options is missing an Option G.
- On page 5-32, the introductory paragraphs for the Agriculture section are confusing. There are several typos/incomplete sentences and it is unclear whether the percentage given for agricultural loads to the Bay (35 percent) is for Nitrogen only (as indicated by Fig. 5.1) or for Nitrogen and Phosphorus. Also, 35 percent is given as Ag’s total load but if the 5 percent air deposition load from chemical fertilization and livestock emissions is included (page 5-33, 1st paragraph) then the total load comes to 40 percent. Which figure is accurate?

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Response: Comments 94 – 95 were addressed in re-writes or other edits of the Phase I final submission.

Comment # 96.

Commenter: C119

The commenter feels that some statements are inaccurate or misleading. In general some of the statements in the WIP suggest greater current support than actually exists. The commenter gives the following examples:

- The following language “Maryland Nutrient Management program provides financial and technical assistance to farmers” suggests that there is full funding to support the nutrient management program. It has been some time since farmers received financial assistance for plan writing as cost-share funding for certified consultants. This funding provided a considerable number of additional individuals available to help farmers comply with the law. Likewise, the University of Maryland Extension service has had to reduce their technical support to write plans. We believe that additional funds for this program are essential to keep farmers in compliance the law and nutrients out of the Bay.
- The following language “Manure transportation program provides funding for manure from animal operations”, while funding has been available in the past, funding at present is only available to litter being used for alternative uses; again, its inclusion in the WIP is misleading. Today, dairy operations with liquid manure no longer have support under this program and yet their cost to transport manure is high. The commenter believes that funding to support the transportation of poultry litter and other manures from farms with excess phosphorus – to those in need of additional P is of value to agriculture and the Bay. Manures provide an important local and organic source of nutrients for land and for crops that need nutrients. When applied in compliance with a nutrient management plan it is the best use for this valuable product.
- The following language is inaccurate, “According to the general permit conditions, in addition to having a Comprehensive Nutrient Management Plan (CNMP), a Soil Conservation and Water Quality Plan (Conservation Plan) must be developed for the production area in accordance with the NRCS National Planning Procedures Handbook”, as the Soil Conservation and Water Quality Plan SCWQP is part of a CNMP – not a separate item.
- The following language “if an acre is reported as continuous no-till (CNC) it will be ineligible for additional credits from cover crops or nutrient management planning”, should be deleted, fact is, regardless of CNC – in a year like this with reduced yields, additional water quality benefits would be gained from a cover crop and allocations should be allowed to encourage participation in the cover crop program.
- As noted, “Maryland crop yields are 15-30 bushels higher than the Chesapeake Bay Program Model yields”, if the correct data is included in the Bay model, Maryland potential nutrient loss would be decreased. This should be a priority. Accurate data is paramount for the Bay model and if the Bay model used annual NASS data as recommended by the agricultural community it would be reflecting more accurate data.
- “On-farm assessment of Voluntary practices”, the inclusion of these unfunded BMPs is critical. There is concern that the Bay model is in “lockdown” until 2017. The commenter requires understanding about how these BMPs are going to be included, how values will be assessed for practices that do not meet existing standards and what the timeframe is for this activity.

Response: The final WIP document provides estimates of the funding for a fully functional Nutrient Management Program, with cost-share incentives for plan writing and extension support for writing plans. The final Manure Transport option contains estimates of the funding to fully meet the

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transport goals for both poultry and dairy. The language about the CNMP has been modified. The problems with the model have been reflected in the contingency section of the WIP. The on-farm assessments of BMPs are a joint project with National Association of Soil Conservation Districts (NASCD) and the Bay Program.

Comment # 97.

Commenter: C116

The commenter states that every facet of stormwater management, whether under State or federal requirements, must have specific performance standards. The WIP itself and MS4 permits and the stormwater portions of TMDLs should require enforceable nutrient reduction minimum attainment objectives in every Phase I and II MS4 permits now in effect or under consideration for revision and renewal. In addition to nutrient (nitrogen and phosphorus) reduction, TSS and stormwater volume reduction must also be clearly-established objectives within the WIP, MS4 permits and stormwater portions of TMDLs.

The commenter states that although stormwater volume reduction is widely recognized as a crucial parameter requiring regulatory control through stormwater permits and programs, MDE has yet to fully recognize and incorporate stormwater flow as a regulated parameter. The National Research Council, Committee on Reducing Stormwater Discharge Contributions to Water Pollution, in 2008 published its report entitled Urban Stormwater Management in the United States. As the NRC recommends, it is essential that MDE incorporate stormwater flow as a regulated parameter and as a target objective within the WIP and stormwater TMDLs and restoration/ retrofitting provisions in MS4 permits.

Response: Maryland worked through the performance issues with EPA to their satisfaction in the final submission.

Comment # 98.

Commenter: C117

The commenter points out that in Chapter 2, the paragraphs that describe the state's current capacity to manage each source sector do not mention whether the current capacity is sufficient. There is also no mention of how capacity would be increased if it is not currently sufficient. The commenter asks if there has been an assessment done of the current capacity at the local level.

Response: It is assumed, that in general, current capacity is insufficient. The final submission included significantly more information on how the deficiencies would be resolved and provided time lines.

Comment # 99.

Commenter: C117

The commenter suggests that BMPs placed on state-owned lands should be used in an active demonstration and education program for private landowners, so the landowners can understand the techniques and the costs/benefits.

Response: Most landowners understand the techniques, but demonstrations can always be arranged.

Comment # 100.

Commenter: C117

The commenter states that the lack of dredging behind dams, especially those for large power plants, is one of the biggest threats to the Bay and asks if there are plans to implement a dredging program.

Response: The Army Corps is discussing possible feasibility studies for this issue.

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Comment # 101.

Commenter: C119

The commenter points out that Maryland's soil conservation districts play an important role in many non-agricultural issues.

Response: Agreed.

Comment # 102.

Commenter: C123

The commenter (Patuxent River Commission) is working diligently to secure federal funding for a feasibility study by the Army Corps of Engineers (ACOE) to determine the potential of a Basin Plan for the Patuxent River, similar to the one recently created for the Anacostia River entitled *A Vision for Restoring the Anacostia Watershed*. It is their belief that a similar plan for the Patuxent could provide a roadmap for those interested in implementing BMPs in the Patuxent Watershed to reduce existing nutrient pollution, prevent future pollution from expected and appropriate growth, and to reach the target loads identified in the Phase I WIP.

Response: That is a reasonable approach, but the commenter should note that ACOE has clearly indicated that the Anacostia plan is not a TMDL implementation plan.

Comment # 103.

Commenter: C125

The commenter supports the expansion of Maryland's Policy on Nutrient Cap Management and Trading to incorporate trades between sectors. The commenter proposes that assessments of the success of inter- and intra-state trading programs be made part of the 2-year milestone reporting process and that state implementation plans be adjusted accordingly.

The commenter states that it is important that the specific details of how trading can be implemented be defined so that local governments and utilities understand the range of options available to them and know how to implement them. The details of such trading programs and requirements should be defined in the WIP. There are many regulatory and programmatic issues that various sectors face when considering trading. EPA and the states should work together to eliminate barriers and develop incentives to help make trading a robust and viable process in the Bay watershed.

Response: EPA and States are working together to develop multistate trading program. Once developed, the program will undergo public review and will be widely publicized and posted on web. In accordance with the existing Maryland's Policy on Nutrient Cap Management and Trading, trades between sectors are being considered as an option. The policy identifies specific requirements, eligibility and process for completing the trade. The State agencies will work with local governments to finalize and issue appropriate permits to secure trades. In addition, the State will review and if needed update its Trading Policy to ensure consistency with final allocations and Phase II WIP.

Response: See response to comment 13.

Comment # 104.

Commenter: C125

The commenter states that Maryland must recognize that at the local level addressing water quality requirements is only one of a number of equally compelling mandates and that, within the environmental arena, there are potential conflicts among these mandates. This is especially true when entities must meet mandates derived from EPA's regulations (e.g., CWA, SWDA, and CAA) and programs (e.g., climate change initiatives). Many wastewater treatment technologies intended to implement ENR-level nutrient removal are by their very nature energy and chemical intensive processes and hence tend to increase the net quantity of greenhouse gases. There are already many efforts underway by local governments and wastewater utilities to find ways to minimize those

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energy needs and increase energy reuse; but it will take some time to evaluate and to implement such practices. These efforts are critical to the region not only for enhancing nutrient reduction costs/impacts, but also to help reduce the electricity generation needs in the region, to support regional efforts to comply with CAA regulations and reduce greenhouse gas emissions.

The commenter states that consistent with the stated objectives of adaptive management and incorporating the best available science, EPA and Maryland should have clear policies and mechanisms in the WIP to allow for the reconciliation of such competing environmental mandates, and to avoid a one-size-fits-all approach when it is clearly not appropriate.

Response: Comment noted; Maryland is part of our interstate Trading forum to explore program compatibility.

Comment # 105.

Commenter: C125

The commenter states that the WIP should provide more reasonable assurance that agriculture allocations can be met so as to avoid federal imposition of backstopping measures on regulated sources such as MS4 stormwater permittees and municipal WWTPs. This is important because cost effectiveness studies have indicated that many agricultural practices can reduce pollution at a lower cost/pound than stormwater practices, particularly retrofits.

The commenter states that Maryland should outline various strategies for pursuing additional reductions from non-regulated sources and quantify the amount of unregulated loads that are not currently being required to be reduced. This should include very clear programmatic and potential policy approaches, potential enhanced funding, and use of regulatory options as they may exist, as well as the potential load reductions that could be achieved through such measures so that policy makers can fully evaluate how best to approach this issue. Ultimately achieving and maintaining the Bay's water quality will require that all loads are fully accounted for and managed to some degree.

Response: The contingencies and strategies for agriculture were significantly enhanced in the final submission. EPA has reviewed Maryland's WIP including the agricultural section. EPA has verbally indicated reasonable assurance has been provided and no back stops are warranted.

Comment # 106.

Commenter: C121

The commenter references the Anacostia Watershed Society and Audubon Naturalist Society comments to MDE on its draft sediment control manual in October 2010 with detailed information on this non-chemical/ physical approach to turbidity control. The commenter agrees with these comments and adopts them in their entirety.

Response: Noted.

Phase II Concerns

Comment # 107.

Commenter: C123

The commenter (Patuxent River Commission) expresses concern regarding deadlines for the Phase II WIP will result in a diluted version in comparison to one written over a longer period. Reasons for this concern are that the results from the two pilot projects in Anne Arundel and Caroline counties are not completed yet and as such cannot provide Guidance to the Phase II WIP process. Since one of the goals of the pilot process is to serve as an example to the rest of the state the commenter feels it is important to give enough time for that process to conclude before beginning statewide creation of the next step.

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Response: An extension of the original schedule has been requested. Although EPA will not respond until January, the States are expecting a positive response.

Comment # 108.

Commenter: C125

The commenter states that although EPA's current schedule calls for states to develop and submit Phase II WIPs by June 1, 2011, most local governments have barely begun to assess implementation options because the draft Phase I WIPs only allocate to the state or major basin level and it is not clear what practices or levels of reduction will be needed at the local level. It is also uncertain the degree to which such sub-allocations will be deemed enforceable, and hence what level of controls are mandated. Planning has also been held up by delays in providing final load estimates from the Bay Program's Watershed Model. There also needs to be sufficient time to address the inconsistencies between the TMDL and Phase I WIP assumptions. The Anne Arundel County Pilot WIP has demonstrated the complexities of assigning allocations and hence responsibility and defining accountability when there is a complex mix of federal, state, local and private entities. When this is coupled with uncertainties about the availability of the model to define local loads, it is unrealistic to expect credible Phase II WIPs to be prepared by the current June 1, 2011 due date. Further, the states will be facing a significant challenge in the critical task of effectively engaging local stakeholders who will be affected by the Phase II WIPs. This, too, will be problematic given the current timeline.

The commenter requests that the due date for the draft Phase II WIPs be changed to December 30, 2011, and the due date for the final Phase II WIP be changed to June 30, 2012. Doing so would allow time for stakeholders to become familiar with the revised watershed model and for the various parties to complete the studies of cost effectiveness, cost feasibility and physical feasibility that we are recommending. In the meantime, local government implementation actions, such as construction of enhanced nutrient removal facilities at wastewater plants, would continue. This expanded time frame will also allow for greater public participation at the local level which will be particularly important with the more localized load reduction targets.

Response: See response to comment 107.

Comment # 109.

Commenter: C117

The commenter (Choptank Tributary Team) offers their help to convene an Eastern Shore stakeholders meeting with the state to help jurisdictions understand more about the Phase II process.

Response: The offer is appreciated. The Agro-Ecology Center at Wye Research has received two grants to perform that function.

Comment # 110.

Commenter: C123

The commenter expresses concern over the data needs to execute relevant and necessary analysis. Ensuring that local governments all need to provide the same information and providing links to information they may not possess will be instrumental to creating successful plans.

Response: Part of Phase II will be determining what is needed and how to get it.

Comment # 111.

Commenter: C123

The commenter requests that more detail be added regarding coordination between the layers of government involved in this process. Through documents provided by the EPA there is clarity on the relationship between the federal government and state and local governments but the way in which county and municipal governments will interact and who will be responsible for what sections of an allocated load are not yet clear.

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Response: It is still being worked out, but will probably be similar to that worked out in the WIP pilots in Anne Arundel and Caroline Counties.

Comment # 112.

Commenter: C123

The commenter (Patuxent River Commission) has plans to convene a meeting of county and municipal staff from the seven Patuxent counties. This meeting will focus on identifying the data, resource, and coordination needs of these counties for creating robust Phase II WIPs. It is the hope of the PRC's WIP Workgroup that this meeting will be the first of many that coordinate the Patuxent counties in their effort to create effective and attainable Phase II WIPs.

Response: Noted. Thank you, that is helpful.

Comment # 113.

Commenter: C125

The commenter states that local governments and utilities were rarely consulted during development of the WIP and have little time in which to comment. As the process moves into Phase II WIP development, state officials need to do more to hear from local governments and utilities that will bear much of the burden of these implementation measures. Ultimately, all levels of government must work together to justify these efforts and the financial demands on ratepayers and the general public.

The commenter states that Maryland should issue a detailed process for the development of Phase II WIPs as soon as possible and well before the publication of the final TMDL documentation. And EPA should make it clear that local input must be addressed to ensure that the issues of reasonable assurance and feasibility have been worked out with those entities actually responsible for implementation, and allow sufficient time for that input to occur.

Response: Phase II will be all about working with counties, municipalities and the private sector.

Comment # 114.

Commenter: C125

The commenter (Metropolitan Washington Council of Governments) recommends that Maryland, as part of its Phase II WIP and Two-Year Milestone development and in consultation with local governments, include a thorough cost analysis for urban stormwater retrofits as part of an overall analysis of cost affordability and cost effectiveness among the different sources of pollution and reduction practices. This analysis should be designed so that every local government with MS4 responsibilities will know just how much capital and operating expenses they will face as a part of their implementation responsibilities. The degree to which stormwater retrofits are required to achieve load allocations should not be set in the TMDLs themselves nor in the Phase I WIPs and should be periodically adjusted based on adaptive management principles.

Response: A cost analysis with any credibility in terms of the geographic specificity required in Phase II cannot be done statewide. Local cost analyses to find less expensive ways to achieve the load allocations is anticipated in Phase II.

Comment # 115.

Commenter: C118

The commenter states that while the draft Phase I WIP outlines target reductions by sector it is important to allow counties the flexibility to meet their goals in a manner that is most efficient and best for them. Maryland's counties are very diverse and some counties may be able to achieve their goals by targeting greater reductions in agriculture and septic systems while other counties may be able to realize the bulk of their goals by focusing on wastewater treatment plant upgrades. Mandating set reductions or actions in each sector will increase the implementation costs and the risk of failure. The commenter states that counties are going to need a wide range of nutrient reduction tools in order

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to be successful. There are likely going to be many new and innovative nutrient reduction methods proposed stakeholders in both the public and private sector and there must be a process for allowing the testing and use of these methods. These tools must be easily quantifiable both in terms of accounting for the nutrient reductions resulting from their use and their cost. For existing BMPs or those proposed in the Phase II WIP, the State should conduct a cost/benefit analysis. The State must also develop a vetting process that both it and the counties can use to judge new nutrient reduction strategies and assign a value on their effectiveness. The WIP must encourage flexibility and allow for the use of such a vetting process.

Response: A cost analysis with any credibility in terms of the geographic specificity required in Phase II cannot be done statewide. Local cost analyses to find less expensive ways to achieve the load allocations is anticipated in Phase II.

Comment # 116.

Commenter: C123

The commenter states that until MS4 jurisdictions can assess their retrofit opportunities, it is impossible to give reasonable assurance that pollutant reductions are feasible. The MDE should allow local programs flexibility to use other pollution reducing technologies in lieu of stormwater retrofits where assessments show that retrofits cannot provide the necessary load reductions, or where more effective cost efficient opportunities exist. For example, many dense urban communities have limited space to install stormwater retrofits without incurring disproportionately high costs. Future NPDES permits should give credit towards the retrofit requirement for other activities such as stream restoration, street sweeping, and tree canopy improvement.

Response: The final WIP commits MDE to convene a group of experts to identify the most cost effective practices to achieve retrofit requirements. For example, the State Highway Administration has estimated using the most cost effective practices may reduce its costs by as much as two-thirds. The alternatives may include funding reductions from non-urban stormwater sources pursuant to State and federal trading programs. This will not relieve the stormwater sector from other restoration goals that have longer time horizons, but rather, is designed to allow the stormwater sector to meet nutrient and sediment goals sooner than would otherwise be financially feasible.

MDE has formed an NPDES Stormwater Workgroup composed of local jurisdiction staff to research new and innovative water quality treatment practices. MDE's goal is to develop a robust group of urban BMPs that can be implemented to ensure that Chesapeake Bay TMDLs and water quality standards are met. Maryland's NPDES Stormwater Workgroup is eager to work with the EPA to help develop appropriate efficiencies for ESD to the MEP, stream restoration, coastal plain step-pools, and other urban BMPs that EPA has yet to assign efficiency values.

Comment # 117.

Commenter: C125

The commenter states that because the Phase I WIP does not address reductions or implementation practices at the local level, it is not clear how much flexibility local governments and other stakeholders will have in pursuing implementation plans. The state should build in the ability for local governments to reallocate assigned loads among different source sectors local governments and utilities to trade allocations and load reductions among different wastewater plants, for local governments and utilities to be able to take advantage of viable trading programs outside their jurisdictional boundaries. However, the commenter has major concerns as to whether such trading programs will prove to be successful, given their very limited track records to-date and the many uncertainties associated with determining what baseline conditions must be achieved before which trading can actually occur. Also, while the Phase I WIP clearly supports trading – there are very few specifics regarding how trading from all sectors can actually be implemented, or what the baseline assumptions are.

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Response: The State will review and if needed update its Trading Policy to ensure consistency with final allocations and Phase II WIP. The State supports local governments' flexibility in developing implementation strategies in the Phase II WIP. The State will work with local governments and EPA to evaluate proposed reallocations for consistency with EPA and State requirements and to ensure that interim and final target loads for Maryland are met.

Comment # 118.

Commenter: C125

The commenter requests that EPA and Maryland take the lead in conducting an inventory of how federal facilities throughout the watershed manage stormwater. They should set reduction targets for these facilities, including roads and highways, which will exceed those that may be required of local jurisdictions.

Response: The State is working with federal agencies. SWM requirements outlines in the WIP will be negotiated and included in all appropriate NPDES permits.

Comment # 119.

Commenter: C125

The commenter supports Maryland's intention to revisit the allocations during the development of the Phase II WIPs. In issuing new estimates and proposing new allocations, EPA and Maryland should allow local governments and other stakeholders adequate time to review these numbers; the commenter proposes that parties have at least 120 days to do so.

Response: Comment noted.

TMDL and Model Comments

Comment # 120.

Commenter: C117

The commenter asks why phosphorus reduction numbers were not available until after the final model run.

Response: The model calculates phosphorus reductions based in the BMPs submitted in the input deck.

Comment # 121.

Commenter: C119

The commenter expresses concern about the Bay model and the lack of accuracy as it relates to land activity and the value of assigned credits. Something needs to be done to improve the accuracy and acceptance of the Bay model data before we can fully engage all sectors and Maryland citizens to fully embrace Bay cleanup efforts. Improvement to the model must include the addition of all BMPs applied to agricultural land regardless of when the practice was installed.

Response: MDA is using conservation tracker to identify implemented practices not previously counted.

Comment # 122.

Commenter: C125

The commenter included comments for the TMDL in their WIP comments. The commenter also these comments to EPA so the comments are not presented here.

Response: Noted.