

APPENDIX F – MDE Response to EPA’s Comments on the Final Draft 2004 Integrated Report

EPA Comment #1: Section 3.2.1.3.1 - Natural Conditions - provide identification of the waters that are not listed based on the natural conditions provision, and the data/rationale for invoking the natural conditions provision as to each water.

MDE Response: EPA is referring to the areas of Chesapeake Bay known as the Deep Trough, which extends from roughly the mouth of the Patapsco River outside of Baltimore Harbor to the Maryland-Virginia State line. This area is the historical bed of the Susquehanna River and is a naturally deep channel. The area is listed for nutrients rather than dissolved oxygen and will be more directly addressed upon promulgation of the new Chesapeake Bay Water Quality Criteria. EPA document 903-R-03-002 provides the basis for a Use Attainability Analysis in these deeper areas of Chesapeake Bay.

EPA Comment #2: Section 5.4 - Description of MOA - 303d list indicates that MDE will strive for 25 TMDLs per year; MOA draft submitted to us for review says 24 TMDLs per year (see also schedule comment below).

MDE Response: Corrected.

EPA Comment #3: Section 5.5 - Description of how Chesapeake will be treated for TMDL purposes - the narrative should reflect all of the work being performed in greater detail to acknowledge, that while this water body is listed as a low priority, MDE is performing work commensurate to the importance of the Bay.

MDE Response: Current text states “in response to the tight schedule recommended by the Federal Advisory Committee Act (FACA), the State will focus its resources first on high-priority WQLSs. All other WQLSs will be targeted for TMDL development in 8-13 years consistent with current EPA guidance.

While the current 303(d) List identifies the Anacostia and Chesapeake Bay as low priority for TMDL development, this does not reflect the high level of effort currently underway to identify and document pollution loadings in the watersheds. Nor does it account for the exhaustive management efforts that must be considered before such a complex TMDL implementation strategy can be effectively administered. As a result, the extensive data and overall high level of effort required to evaluate these water bodies is not demonstrated in the assigned low priority rating.”

Proposed new text is - While the current 303(d) List identifies the Anacostia and Chesapeake Bay as low priority for TMDL development, this does not reflect the high level of effort currently underway to identify and document pollution loadings in the watersheds or implement best managements practices and other measures to

protect/restore water quality. Maryland is working cooperatively among existing programs and agreements (i.e., the Chesapeake Bay Program/2000 Bay Compact and the Metropolitan Washington Council of Governments/Anacostia Watershed Restoration Committee) to establish and implement watershed plans that set the framework to achieve compliance with Water Quality Standards. Maryland, in cooperation with local citizens and jurisdictions, is finalizing its Tributary Strategies to achieve restoration targets outlined in the Chesapeake 2000 Agreement. Maryland is revising its Water Quality Standards for the Bay to achieve specific habitat and aquatic resource goals recommended by the Chesapeake Bay Program. The Governor of Maryland and the General Assembly recently approved a sewage tax to finance \$750 million to \$1 billion in improvements to Maryland's 66 largest sewage treatment plants. Also, the Chesapeake Bay model is being used to derive allocations to each of the major Bay tributaries to set goals for limiting the amount of pollutants entering the watershed. The Anacostia Watershed Restoration Committee has developed similar goals, strategies and initiatives and MDE is currently chairing this group. There is also on-going work with the U.S. Army Corps of Engineers and other federal agencies to define toxics and sediment transport issues.

Completion of many TMDLs affecting the Bay are dependant upon revisions to the Bay model . In particular, many sediment TMDLs will be completed in aggregate with the new Phase V watershed model.

EPA Comment #4: Waters on Section 4b of the Integrated List (i.e., no TMDL needed because there are other required technology-based controls) - could MDE provide a schedule for implementation of the ICS and how that implementation will be ensured. Key area is the Baltimore Harbor. The 303d report states that the ICS permits have been developed and are attached. They're not in the draft. Also, have the permits been developed or issued? If they're not issued, then when will they be issued?

MDE Response: MDE sent the ICS's to EPA as requested.

EPA Comment #4, continued: Also under 4b are two other listings for the Lower/Middle Patuxent River related to an oil spill and the other required control is the spill clean up. The spill occurred in 2000. We asked for a status update and in its responsiveness summary, MDE stated six new monitoring areas were recently hailed as cleaned up of oil in 2004. However, the majority of the original impaired sub-sections remain impacted with oil. The NRDA clean up effort identifies these areas as cost ineffective to pursue clean-up efforts with the understanding that more environmental harm would likely occur as a result of such activity. In other words, there are NO other controls for the remaining listed areas, and therefore they should go on the list.

MDE Response: MDE's original response stated "the Lower/Middle Patuxent River remains on Category 4b as a result of the 2000 oil spill. Six new monitoring areas were recently considered clean of oil in 2004. However, the majority of the original impaired sub-sections remain impacted with oil. The NRDA clean up effort identifies these areas

as cost ineffective to pursue clean-up efforts with the understanding that more environmental harm would likely occur as a result of such activity.”

The proposed more detailed response is that “the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, 42 U.S.C. 9601 *et seq.*, and the Clean Water Act (CWA), 33 U.S.C. 1251-1376, provide that natural resource trustees may assess damages to natural resources resulting from a discharge of oil or a release of a hazardous substance covered under CERCLA or the CWA and may seek to recover those damages. This part supplements the procedures established under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR 300, for the identification, investigation, study, and response to a discharge of oil or release of a hazardous substance, and it provides a procedure by which a natural resource trustee can determine compensation for injuries to natural resources that have not been nor are expected to be addressed by response actions conducted pursuant to the NCP.”¹⁰ This process, known as a Natural Resources Damage Assessment (NRDA), was implemented in response to the April 2000 oil spill at the former PEPCO Chalk Point Power Plant, located on the Patuxent River in lower Prince Georges County, Maryland.

As mentioned above, part of the NRDA process includes identification, investigation and study of the extent and magnitude of the spill and its effects on natural resources as well as the appropriate level of environmental response and clean up. One component of NRDA that both the Maryland Departments of Environment and Natural Resources (e.g., the trustee agencies) were intimately involved with was the Shoreline Clean-up Assessment Team (SCAT) surveys, both immediately after and for three years following the April 2000 spill. The SCAT teams were tasked with walking all oil impacted shoreline, marsh and intertidal areas to identify the presence of oil and oil by-products (i.e., silver sheen, rainbow sheen, oil flecks or peppering, tar balls, oil mats, etc.). Stringent criteria were developed for Phase 1 and Phase 2 level clean-up and trustee sign-off. Phase 1 clean-up criteria outline the initial response phase to recover all mobile oil. Phase 2 criteria (attached) are very stringent and require that: (1) no potentially mobile sources of oil are present; (2) are tailored to specific habitat types (wetlands, marshes, beaches and man-made structures); and, (3) allow at most some residual silver sheen on the water surface. Once Phase 2 criteria have been met, the trustee agencies then proceed to sign-off the area as free of oil.

In some cases, including the segments of the Patuxent River that still remain in Category 5 of the 303(d) List as impacted by oil, it was determined that meeting the stringent criteria identified in Phase 2 (see attached guidelines) through aggressive recovery mechanisms (i.e., roto-tilling, pressure washing) will result in more environmental harm than good. This is particularly true in marsh, wetland, mud flat, and other fine-grained type habitats that naturally retain and biodegrade contaminants over time. In these situations, the trustee agencies decided that all practical technical fixes were applied during the NRDA process and that ecosystem recovery was occurring and would continue to occur through improved biological processing and natural attenuation. Consequently, a TMDL would only succeed in stating that some negligible quantity of

¹⁰ Web site: http://www.doi.gov/oepc/wp_docs/43cfr11.html

petroleum products per year is the allowable load, which is already occurring since the oil spill was a one-time event.

The State has been and will continue to be engaged in a comprehensive remediation strategy (i.e., NRDA) until all segments are signed off as meeting phase 2 criteria. A TMDL will not lead to a broader program to eliminate the legacy pollution because no new loads are entering the system, and removal of current contaminated sediment would cause more ecological damage and water quality degradation than allowing the petroleum to degrade naturally or be buried in place. Accordingly, these remaining Patuxent River segments have been listed in Category 4b of the 303(d) List as having a technical and programmatic framework in place to correct the impairments. A private contractor continues to monitor these remaining areas on an annual basis. Trustee agencies will be notified when these areas meet Phase 2 criteria and are ready for reinspection and final approval.

EPA Comment #5: Bacteria methodology and MD standards/regulations - while we acknowledge that present regulations are in the process of being revised, we would like additional clarification on how the methodology is consistent with current regulations - COMAR 26.08.02.03-3 and 26.08.09.06.

MDE Response: MDE conducted a conference call with EPA on June 30th, 2004. As a result of the call the following was clarified by the MDE in regard to EPA's comments on the Bacteria Listing methodology for the 2004 303 (d) list:

- Waters that exceeded bacteria standards were placed on the 303 (d) list even if a sanitary sewer survey was not performed.
- Current regulations require a minimum of 5 samples in 30 days. That level of monitoring is only conducted at beaches. Rather than not listing a problematic area because data requirements are not met, MDE uses a similar method (i.e., geometric mean with all available data). This provides a much better long-term estimate of actual water quality. MDE refines the implementation of its water quality standards to make better use of available data and to be more representative of actual water quality.

EPA Comment #6: Nutrient impairments - we asked for a section describing the listing methodology for nutrient impairments. MDE responded 'There is no current nutrient listing methodology or nutrient criteria for non-tidal waters. Nutrient impairment listings were identified during the 1996 303(d) list. These early listings were anecdotal and based entirely upon land use practices, particularly on the amount of agricultural activity in the basin.' Given the percentage of the list that is for nutrients and the discussion in Section 3.8.1. noting that MDE has delisted a number of DO impairments and then used them as supporting data for nutrients listings, we need some further explanation/clarification of this response.

MDE Response: MDE responded to this issue in the first round of EPA comments on the Draft 2004 Integrated Report. MDE will revise the final 2004 Integrated 303(d) list as follows: “MDE has no current methodology for listing waters impaired by nutrients, based solely upon nutrient concentrations. Pending development of nutrient criteria, MDE uses dissolved oxygen and chlorophyll as indicators that acceptable concentrations of nutrients are being exceeded. All nutrient listings on Maryland’s 303(d) List were made before MDE began developing listing methodologies to standardize the decision processes and minimum data requirements necessary to make water body impairment determinations. At the time these nutrient listings were made, MDE used the best information available to identify nutrient-impaired watersheds, although in some cases they were based singularly upon land-use practices in the basin. Maryland felt justified in making these listings because the Chesapeake Bay showed demonstrable nutrient-related impairments (dissolved oxygen sags, algal blooms, high pH, etc.) and the non-tidal tributaries in the Bay watershed contributed to these nutrient loadings. In the absence of nutrient criteria, MDE bases nutrient impairments on violation of dissolved oxygen standards and on ecological impacts from excessive algal blooms. (i.e., chlorophyll a concentrations). In lakes, eutrophication status and dissolved oxygen concentration in the hypolimnion is also used.”

EPA Comment #7: TMDL schedule - MDE has provided a schedule for the next two years as part of the MOA negotiations and indeed, one of the new MOA commitments is to give us a schedule of TMDLs to be established over the next two years every year. This should be included in the Integrated Report as well.

MDE Response: This was included in the final draft 2004 303(d) List submitted to EPA. However, MDE did revisit the List again to make sure that all water bodies designated for TMDL development over the next two years were clearly identified in the List.

EPA Comment #8: It's the sixth year of the Watershed Cycling Strategy. Include in the discussion on Watershed Cycling Strategy some information on how well it's worked so far. Similar to the MOA discussion.

MDE Response: Maryland has instituted a five-year watershed cycling strategy. The State has been divided up into five large regions, each encompassing approximately 20% of the State. The strategy consists of three steps: monitoring, modeling and TMDL development (if required) and implementation, which is not in the context of this agreement. Maryland anticipates that each step will take approximately one year to complete in each watershed. Because the cycling strategy repeats itself, the watershed cycling strategy establishes a natural evaluation framework as the cycle is repeated. Implementation of the steps will be staggered through each of the watersheds and resources for each step focused in one watershed each year starting with the Lower Eastern Shore in 1998.

Maryland's cycling strategy has been successful in that all monitoring throughout the five regions has been completed for eutrophication. A major portion of the toxic monitoring has also been completed. In years six (2004) and seven (2005), Maryland will be focusing on monitoring for sediments, fecal coliform and additional toxics monitoring to address numerous listings. In year eight (2006), Maryland intends to reevaluate the first large watershed (the Lower Eastern Shore) and return to the original five-year monitoring schedule.

TMDL development initially followed the same pattern as the first few years of water quality monitoring for TMDL development, which focused on one region per year. Maryland's modeling and development has encountered some technically complex systems, such as Baltimore Harbor, causing some delays and shifts of resources to produce the necessary TMDLs to meet the production requirements for the TMDL program. As a result of these challenges, TMDL development has focused on areas where data is available and the systems can be easily modeled using WASP or a Vollenweider analysis. Maryland has many projects underway that do not necessarily produce TMDL documents such as methodology development for sediments and fecal coliform impairments. Maryland also has been coordinating with Chesapeake Bay Program to ensure that information used for TMDL efforts and C2K are the same. Using this cooperation, the next version of the Bay Watershed Model (Phase V) will be used in conjunction with Maryland's water quality models to produce TMDLs for many areas of Maryland, including the Potomac River.