UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

OCT 16 2015

D. Lee Currey, Director
Science Services Administration
Maryland Department of the Environment
1800 Washington Blvd., Suite 540
Baltimore, Maryland 21230-1718

Dear Mr. Currey:

The U.S. Environmental Protection Agency (EPA), Region III, has conducted a complete review of Maryland's 2014 Section 303(d) List, and supporting documentation and information. Based on this review, EPA has determined that Maryland's list of water quality limited segments still requiring Total Maximum Daily Loads, meets the requirements of Section 303(d) of the Clean Water Act and EPA's implementing regulations. Therefore, with this letter, EPA hereby approves Maryland's 2014 Section 303(d) List. The statutory and regulatory requirements, and EPA's review of Maryland's compliance with each requirement, are described in the enclosure.

We commend you and your staff for the thorough work and exemplary effort in establishing the list and in responding to the comments received.

If you have any questions regarding this decision, please feel free to contact Ms. Evelyn S. MacKnight, Associate Director, at 215-814-5717, or macknight.evelyn@epa.gov.

Sincerely,

Jon M. Capacasa, Director
Water Protection Division

Enclosure

EPA Region III Approval Rationale of Maryland's 2014 Section 303 (d) List

EPA has conducted a complete review of Maryland's 2014 Section 303(d) list and supporting documentation and information and, based on this review, EPA has determined that Maryland's list of water quality limited segments (WQLSs) still requiring Total Maximum Daily Loads (TMDLs) meets the requirements of Section 303(d) of the Clean Water Act ("CWA" or "the Act") and EPA's implementing regulations. Therefore, by this order, EPA hereby approves Maryland's Section 303(d) list. The statutory and regulatory requirements, and EPA's review of Maryland's compliance with each requirement, are described in detail below.

Statutory and Regulatory Background

Identification of WQLSs for Inclusion on Section 303(d) List

Section 303(d)(1) of the Act directs States to identify those waters within its jurisdiction for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or non-point sources, pursuant to EPA's long-standing interpretation of Section 303(d).

EPA regulations provide that States do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act; (2) more stringent effluent limitations required by State, local, or federal authority. See 40 CFR 130.7(b)(1). The EPA review and action on Maryland's 2014 list is generally consistent with EPA guidance, including *Guidance for 2006 Assessment, Listing, and Reporting Requirements Pursuant to Sections 303(d), 305(b), and 314 of the Clean Water Act* (July 29, 2005), the memorandum titled *Information Concerning 2012 Clean Water Act Section 303(d), 305(b) and 314 Integrated Reporting and Listing Decisions,* and the memorandum titled "*Information Concerning 2014 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions*".

Consideration of Existing and Readily Available Water Quality-Related Data and Information

In developing Section 303(d) lists, States are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the State's most recent Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate non-attainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to EPA. See 40 CFR 130.7(b)(5). In addition to these minimum categories, States are required to consider any other data and information that is existing and readily available. EPA's 1991 Guidance for

Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available. See Guidance for Water Quality-Based Decisions: The TMDL Process, EPA Office of Water, 1991, Appendix C (EPA's 1991 Guidance).

While States are required to evaluate all existing and readily available water quality-related data and information, States may decide to rely or not rely on particular data or information in determining whether to list particular waters.

In addition to requiring States to assemble and evaluate all existing and readily available water quality-related data and information, EPA regulations at 40 CFR 130.7(b)(6) require States to include as part of their submissions to EPA, documentation to support decisions to rely or not rely on particular data, information and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by the Region.

Priority Ranking

EPA regulations also codify and interpret the requirement in Section 303(d)(1)(A) of the Act that States establish a priority ranking for listed waters. The regulations at 40 CFR 130.7(b)(4) require States to prioritize waters on their Section 303(d) lists for TMDL development, and also to identify those WQLSs targeted for TMDL development activities in the next two years. In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. See Section 303(d)(1)(A). As long as these factors are taken into account, the Act provides that States establish priorities. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and State or national policies and priorities. See 57 FR 33040, 33045 (July 24, 1992), and EPA's 1991 Guidance.

Analysis of Maryland's Submission

Identification of Waters and Consideration of Existing and Readily Available Water Quality-Related Data and Information

EPA has approved Section 303(d) lists submitted by Maryland including, but not limited to, Section 303(d) lists, for the years 1996, 1998, 2002, 2004, 2006, 2008, 2010, and 2012. To the extent that these prior lists have been incorporated into the 2014 Section 303(d) list, EPA's rationale for approving those lists remains operative. EPA's review of the 2014 Section 303(d) list focused on changes from the prior lists.

On August 8, 2014, Maryland Department of the Environment (MDE) public noticed the draft 2014 Section 303(d) list for a comment period of 31 business days, from August 8, 2014 through September 24, 2014. The draft list was posted on several outlets including among

others, MDE's internet world-wide-web, Maryland Register, and several of MDE's social media outlets (e.g. Facebook). MDE held an informational public meeting on September 8, 2014, at MDE Headquarters in Baltimore, Maryland, to receive comments on the draft document. The review period was later extended by an additional two weeks (10 business days) to allow additional time for review and comment.

EPA received MDE's draft final 2014 Section 303(d) list package on April 21, 2015. The 2014 Section 303(d) package included: (1) an overview of the process for development of the 2014 Section 303(d) list; (2) surface water monitoring strategy, assessment units, the listing methodologies for the following kinds of data: temperature, sediment, toxics, bacteria, biological and Chesapeake Bay (these methodologies have undergone public review); (3) assessment results associated with biological impairments, toxics, bacteria, and solids from rivers/streams, lakes/ponds, estuarine and ocean waters; (4) the public process related to the 303(d) list; and (5) the integrated Section 305(b) report and Section 303(d) list, consisting of parts 2,3,4, and 5. MDE also provided a list of TMDLs approved (Table 14) and anticipated for completion for Fiscal Year 2014 and 2013 (Table 15 and 16, respectively). Tables 15 and 16 also indicate which of these TMDLs are part of the *Memorandum of Understanding between the State of Maryland and the United States Environmental Protection Agency Region III regarding Sections 303(d) and 303(e) of the Clean Water Act* for 1998 listings. The package also included a responsiveness summary of comments received during the public review.

EPA has reviewed Maryland's description of the data and information it considered, its methodology for identifying waters, and additional information provided in response to comments raised by EPA and other parties. EPA concludes that the State properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 CFR 130.7(b)(5).

In addition, the State provided its rationale for not relying on particular existing and readily available water quality-related data and information as a basis for listing waters

In regards to the comments submitted to MDE during the public comment period, EPA notes that several commenters expressed concern regarding moving the listing of 139 waterbody-pollutant combinations (for a total of 53 Chesapeake Bay segments) from Part 5 (waters that may require a TMDL) to Part 4a (waters that are still impaired but have a TMDL) of Maryland's Integrated Report. These 139 Chesapeake Bay segment-pollutant combinations generally involve tidal portions of Chesapeake Bay tributaries that were classified as Chesapeake Bay segments in 2008. These Chesapeake Bay segment-pollutant combinations were moved from Part 5 to Part 4a because TMDLs were developed for the 139 Chesapeake Bay segment-pollutant combinations as part of the December 2010 Chesapeake Bay TMDL. EPA generally agrees with the responses to these comments provided by MDE and adds the following.

Part G of Maryland's 2014 Integrated Report summarizes the history of impairment listings that ultimately comprise Chesapeake Bay segments for which TMDLs were established by the December 2010 Chesapeake Bay TMDL. Since at least 2004, MDE had informed the public of its intent to address certain 1996 and 1998 impairment listings through the Chesapeake Bay TMDL process, with further notice provided as part of the 2006 and 2008 Integrated

Reports. In addition, the draft Chesapeake Bay TMDL, which included TMDLs for the 139 Chesapeake Bay segment-pollutant combinations, was the subject of public notice and comment and extensive public outreach. See American Farm Bureau Federation v. U.S. Environmental Protection Agency, 984 F. Supp. 2d 289 (M.D. Pa. 2013), aff'd, 792 F.3d 291 (3d Cir. 2015).

The commenters assert that the 139 Chesapeake Bay segment-pollutant combinations should not be removed from Part 5 of the Integrated Report based on the commenters' view that the Chesapeake Bay TMDL is insufficiently protective of water quality within each Chesapeake Bay segment. To make this point, commenters compare the Chesapeake Bay TMDL allocations for the Port Tobacco River (Bay segment POTOH2 MD) with those in a TMDL established for the Port Tobacco River in 1999.

It is important to recognize the difference between the 139 waterbody-pollutant combinations that are the subject of the comments and were moved to Part 4a of the Integrated Report following establishment of the Chesapeake Bay TMDL, and waters, such as the Port Tobacco River, for a which a TMDL was established prior to December 2010 and which had been on Part 4a of the Integrated Report prior to establishment of the Chesapeake Bay TMDL. Where a Chesapeake Bay segment has allocations pursuant to the December 2010 Chesapeake Bay TMDL and a pre-existing TMDL, both TMDLs remain applicable. MDE has announced its intent to undertake a review of each such segment and identify the more appropriate TMDL for that segment. MDE has announced that it will provide the public with notice and an opportunity for comment with respect to each segment. EPA appreciates MDE's efforts and supports the announced approach. Just as development of a TMDL is a process that occurs separate from development of the 303(d) list with a separate public notice and comment period, the approach outlined by MDE for addressing Chesapeake Bay segments that may have two TMDLs established at different times for the same pollutant (and in some cases for different WQS) is appropriately separate from the Section 303(d) listing process.

With respect to the 139 waterbody-pollutant combinations for which the allocations set forth in the Chesapeake Bay TMDL are the only applicable nutrient and/or sediment TMDLs, those waterbody-pollutant combinations were appropriately placed in Part 4a of the Integrated Report. To the extent the commenters feel the allocations established by the Chesapeake Bay TMDL are insufficiently protective, the Section 303(d) list is not the appropriate vehicle for that concern. As MDE noted in its response to comments, there are hundreds of TMDLs in place in Maryland. The bi-annual Section 303(d) process would become unwieldy and overly cumbersome if MDE were required to re-evaluate any and all established and approved TMDLs during every Section 303(d) list cycle, and nothing in Section 303(d) or its implementing regulations requires TMDL re-evaluation as part of the Section 303(d) listing process.

Turning to the commenters' specific assertions, the commenters apparently fail to appreciate that no Chesapeake Bay-wide conclusions can be drawn from their reference to the Port Tobacco River TMDL. First, the commenters fail to acknowledge that the 1999 Port Tobacco River TMDL was designed to achieve different water quality standards than those currently in effect. The 1999 Port Tobacco River TMDL was designed to achieve a reduction in nutrient inputs to a level that will ensure the maintenance of the dissolved oxygen standards and reduce the frequency and magnitude of algal blooms. By contrast, the allocations in the

Chesapeake Bay TMDL were designed to achieve the refined water quality standards for the tidal tributaries and embayments for dissolved oxygen, chlorophyll a, water clarity, and submerged aquatic vegetation (SAV). These refined standards were adopted by Maryland and approved by EPA between 2005 and 2010. See Bay TMDL Sections 2 and 3.

Moreover, it is incorrect to assume, as commenters suggest, that the relationship between the allocations in the 1999 Port Tobacco River TMDL and the December 2010 Chesapeake Bay TMDL is representative or can be extrapolated across all Chesapeake Bay segments. Take for example, the Manokin River (Chesapeake Bay segment MANMH), another waterbody for which a nutrient TMDL (for total nitrogen) was established prior to December 2010. Like the 1999 Port Tobacco River TMDL, the 2001 Manokin River TMDL was designed to achieve a different water quality standard than that adopted by Maryland and approved by EPA between 2005 and 2010. The 2001 Manokin River total nitrogen TMDL allocates a total annual nitrogen load to the waterbody of 353,680 lbs per year and gives an annual wasteload allocation to the Princess Anne Wastewater Treatment Plant of 30,685 lbs/year. By contrast, the December 2010 Chesapeake Bay TMDL allocates total annual nitrogen load of 342,457 lbs per year and gives an annual wasteload allocation to the Princess Anne Wastewater Treatment Plant of 11,512 lbs per year. While other point source dischargers to the Manokin River were not considered significant and therefore were not given individual wasteload allocations in the Chesapeake Bay TMDL, EPA notes that the Eastern Correctional Institute (MD0066613), which received a WLA in the 2001 TMDL, was given an individual wasteload allocation under Maryland's Phase II Watershed Implementation Plan. That Phase II WIP allocation is comparable to the individual wasteload allocation to the Eastern Correctional Institute in the 2001 TMDL.

Also, EPA is aware that certain comments criticize Maryland's summary of its implementation of its anti-degradation policy in connection with issuance of a permit and Water Quality Certification associated with development of Waldorf Crossing (a/k/a Waldorf Station) near Mattawoman Creek in Charles County. EPA does not interpret the comment as going to the Section 303(d) listing status of Mattawoman Creek. To the extent the commenter expresses concern regarding the application of the anti-degradation policy to a specific project or discharge that is the subject of a separate process and is beyond the scope of the Section 303(d) listing process.

A. Description of the methodology used to develop this list, Section 130.7(b)(6)(i)

For the 2014 reporting cycle, changes were made to the bacteria and biological assessment methodologies. The bacteria assessment methodology has now been merged with the previously separate methodology for combined and sanitary sewer overflows. The previous "combined and sanitary sewer overflow" assessment methodology addressed waters that did not have ambient bacteria data but which did have information on the frequency of sewer overflows. Since the assessment goals for both of these methodologies (the bacteria and the combined and sanitary sewer overflows methodologies) were complementary (they both assess support of water contact) they were simply merged to provide better continuity and consistency. In addition, this now combined methodology also includes new language in the beach assessment section to further clarify the assessment process for beaches. EPA's approval of the 2014 Section 303(d) list is based in part on the fact that Maryland has identified and documented in the Integrated

Report impairments identified by application of its current bacteria methodology. We look forward to understanding Maryland's proposed revised methodology and expect that Maryland will ensure that impairments identified by its methodologies are captured in either Part 4 (as applicable) or Part 5 of future Integrated Reports.

The biological assessment methodology was revised in order to incorporate county-collected biological data as part of the 8-digit watershed assessments. For the first time ever, state assessors integrated Baltimore and Frederick County biological data with state data (Maryland Biological Stream Survey, MBSS) to improve the accuracy and spatial coverage of watershed assessments. To integrate this data properly state assessors had to take into account both spatial and sampling differences between the MBSS dataset and county datasets. Since the counties sampled only within their borders and because some 8-digit watersheds cross county boundaries, MDE established a geographic weighting procedure. This procedure weights county data according to the proportion of stream miles in a watershed that are within that county's boundaries. Doing this ensures that the county data, which may be concentrated in one geographic portion of the watershed, does not bias the assessment of the entire 8-digit watershed. The main sampling difference between state-collected data and county-collected data are that these counties do not collect fish community data as part of their bioassessments. To account for this, MDE developed a multi-step assessment process that runs two independent analyses, one which assesses MBSS data alone (both fish and benthos) and another that assesses only benthic data from MBSS and the county (county data are weighted). In the final step of the assessment process the results from these two analyses are compared to determine the appropriate listing category. Concurring results provide greater confidence in the final assessment and corresponding Category (e.g. 2, 3, 5, etc.) assignment. Results that conflict will be moved to Category 3 (insufficient information) or Category 5 (impaired, may need a TMDL) depending on the underlying circumstances and then prioritized for additional data collection.

Another revision made to the biological assessment methodology was the removal of language under the "Data Limitations" section that established a 10-year cutoff date for excluding older biological data. Unfortunately, following this rule led to many watersheds throughout the State having inadequate sample sizes for assessment. As a result, MDE chose to include older data (e.g. all of Round One MBSS data, sampled between 1995-1997) in the 2014 biological assessments and commits to re-evaluating watershed sample sizes in the future.

Another important development related to Maryland's biological assessment methodology was the creation of a complementary document entitled "MDE Requirements for Use of In-Situ Biological Stream Data". This new set of guidelines helps to clarify MDE's data quality requirements for accepting and using biological data for regulatory purposes, which include, but are not limited to: water quality criteria development, Integrated Report assessments, TMDL development, Tier II high-quality water determinations, and measuring NPDES permit or 401 certification compliance.

The last major development in Maryland's assessment methodologies (for 2014) was a temperature assessment methodology designed to evaluate support of temperature criteria in Use Class III and III-P (coldwater) streams. This and all other assessment methodologies are also available on MDE's Web site at

http://www.mde.maryland.gov/programs/water/tmdl/integrated303dreports/pages/programs/waterprograms/tmdl/maryland%20303%20dlist/ir_listing_methodologies.aspx.

B. Description of the data and information used to identify waters, including a description of the data and information used by Maryland as required by Section 130.7(b)(5).

1. Section 130.7(b)(5)(i), Waters identified by Maryland in its most recent Section 305(b) report as "partially meeting" or not meeting designated uses or as "threatened."

Maryland's Section 303(d) list is mostly defined by the data collection and assessment contained in the 305(b) report of the State's water quality. In Maryland, responsibility for collection and compilation of this information is shared between the Maryland Department of Natural Resources (MDNR) and MDE. MDE compiles Maryland's Inventory of the Water Quality, the Section 305(b) Report, every two years pursuant to Section 305(b) of the CWA. MDNR collects many of the data that goes into the assessments. Also, MDE sets water quality standards (WQS), regulates discharges to Maryland waters through environmental permitting, enforcement and compliance activities, identifies waters for inclusion on the Section 303(d) list, and develops TMDLs. Since 2002 and consistent with EPA guidance, Maryland has submitted an integrated report combining the Section 303(d) list and the Section 305(b) report (Integrated Report). The following categories are used to describe water quality in Maryland's Integrated Report. Category 1 of the Integrated Report identifies waters that meet all water quality standards and no use is threatened. Category 2 identifies waters meeting water quality standards for at least one designated use, but with insufficient information to determine if WQS are being met for other designated uses. Category 3 identifies waters where there is insufficient information to determine if any water quality standard is being attained, and includes subcategories for insufficient data quantity and insufficient data quality. Category 4 identifies waters where one or more WQS are impaired or threatened, but for which a TMDL is not required because a TMDL has already been approved or established by EPA (Subcategory 4a), other pollution control requirements are expected to attain WQS (Subcategory 4b), or the impairment is not caused by a pollutant (Subcategory 4c). Categories 1-4 comprise the Section 305(b) portion of the integrated report. Category 5 is the Section 303(d) list and identifies waters that are not attaining WQS and for which a TMDL may be necessary.

Maryland considers a waterbody as "impaired" (and therefore subject to listing pursuant to Section 303(d)) when it does not attain a designated use pursuant to Maryland's WQS. Maryland has developed numerous methodologies for assessing whether waters are achieving their designated uses. MDE generally has provided the public with notice and an opportunity to comment on its assessment methodologies as they are developed and/or amended.

In September 2004, Maryland updated its Comprehensive Water Quality Monitoring Strategy for all State waters consistent with current EPA guidance (see "Elements of a Water Monitoring and Assessment Program," EPA document 841-B-03-003). This Strategy describes Maryland's water quality monitoring framework and covers all State waters, including rivers and streams, lakes, tidal waters, ground water and wetlands. These water quality monitoring programs support the assessment of Maryland's designated uses as well as integrated reporting activities under Sections 303(d) and 305(b) of the CWA.

In the fall of 2007, MDE initiated monitoring strategy discussion with MDNR in anticipation of a revised strategy for 2009-2010. This 2009 Strategy has been completed and submitted to EPA. (http://www.mde.state.md.us/programs/ResearchCenter/EnvironmentalData/Documents/www.mde.state.md.us/assets/document/Maryland_Monitoring_Strategy2009.pdf).

In 2013, MDE and DNR began the process to update Maryland's Water Monitoring Strategy. This work continued in 2014 as both agencies take the opportunity to reevaluate monitoring goals and objectives to determine if current monitoring programs are still meeting state needs. This process will be used to help document data gaps that the State hopes to fill before the next updates are made to the strategy. The strategy will incorporate new monitoring priorities and enhanced data sharing so as to make more efficient use of limited monitoring resources.

EPA concludes that the Section 303(d) list identifies waters identified by Maryland on its Section 305(b) report as "partially meeting" or not meeting designated uses.

2. Section 130.7(b)(5)(ii), Waters for which dilution calculations or predictive models indicate non-attainment of applicable water quality standards.

Maryland supports the use of computer models and other innovative approaches to water quality monitoring and assessment. Maryland and the Bay partners also relied heavily on the Chesapeake Bay model to develop loading allocations, assess the effectiveness of best management practices, and guide implementation efforts. Several different modeling approaches have also been used in TMDL development. With the growing number of biological impairments in Category 5 of the List, Maryland will be relying more heavily on land use analyses, Geographic Information System (GIS) modeling, data mining, and other innovative approaches to identify stressors, define ecological processes, and develop TMDLs.

3. Section 130.7(b)(5)(iii), Waters for which water quality problems have been reported by local, state, or federal agencies; members of the public; or academic institutions.

An MDE data request letter was widely advertised for the solicitation of data for the 2014 list. With the integration of Sections 305(b) and 303(d) of the CWA and the adoption of a multi-category reporting structure, Maryland has developed a two-tiered approach to data quality. Tier 1 data is used to determine impaired waters (e.g., Category 5 waters or the traditional 303(d) List) and is subject to the highest data quality standards. Maryland waters identified as impaired using Tier 1 data may require a TMDL or other regulatory actions on the part of the State. These data should be accompanied by a Quality Assurance Project Plan (QAPP) consistent with EPA data guidance specified in Guidance for Quality Assurance Project Plans (Dec 2002. EPA/240/R-02/009 is available at: http://www.epa.gov/quality/qs-docs/g5-final.pdf). Tier 1 data interpretation must also be consistent with Maryland's Listing Methodologies. As a result of the data solicitation, twenty seven organizations/programs submitted water quality data for consideration in the 2014 IR. Data from twenty six programs/organizations submitted Tier 1 data, and twenty one of these data was used in the evaluation of water impairments.

Tier 2 data are used to assess the general condition of surface waters in Maryland and may include volunteer monitoring, land use data, visual observations of water quality condition, or data not consistent with the Maryland's Listing Methodologies. Such data may not have a QAPP or may have one that is not consistent with EPA guidance. Tier 2 data alone are not used to make impairment decisions (i.e., category 5 listings requiring a TMDL) because the data are of insufficient quantity and/or quality for regulatory decision-making.

Maryland has increased its efforts to make Integrated Reporting data available to the public in a real-time, user-friendly environment. To accomplish this goal, Maryland created a searchable IR database and clickable map to make it easier to find water quality assessments for a particular geographic area. Through the use of MDE's searchable IR database and the interactive online pollutant maps, users can query IR information and explore water quality information in a graphic format. The searchable IR database and clickable map application are available online at:
http://www.mde.maryland.gov/programs/water/tmdl/integrated303dreports/pages/303d.aspx and the interactive pollutant maps can be found at:
http://www.mde.state.md.us/programs/Water/TMDL/Integrated303dReports/Pages/ImpairmentMaps.aspx.

4. Section 130.7(b)(5)(iv), Waters identified by Maryland as impaired or threatened in a non-point assessment submitted to EPA under section 319 of the CWA or in any updates of the assessment.

MDE considered waters identified in a Section 319 assessment during the development of the 1996 Section 303(d) list, and all such water segments were included in the watersheds on that list which is incorporated into all subsequent lists, including the 2014 list. The Clean Water Action Plan of 1998 required a statewide Unified Watershed Assessment which set priorities for Section 319 activities. Maryland's Unified Watershed Assessment, Category I assignments were based on the 1998 Section 303(d) list.

5. Other data and information used to identify waters (besides items 1-4 discussed above).

In addition to waters identified as impaired on the 2012 Section 303(d) List that have not been delisted, the 2014 Section 303(d) lists one hundred and thirty eight impaired waters. Seventy-one of these new listings resulted from the newly implemented temperature assessment methodology for Use Class III and III-P streams. Another thirty five of the new listings resulted from MDE's Biological Stressor Identification Analyses. The purpose of these analyses is to identify the primary pollutants that are responsible for impairing watershed biological integrity. Of these thirty five listings, ten are for chlorides, eight are for total suspended solids, seven are for sulfates, six are for total phosphorus, and four are listed for pH. In addition, there are eight new PCB listings for fish tissue, seven fecal coliform listings in shellfish harvesting waters, six mercury listings for fish tissue, three listings for high pH in streams, and one new heptachlor epoxide listing. Finally, there are seven new Category 5 listings for failures to attain the aquatic life designated use (pollutant(s) not yet specified).

C. A rationale for any decision to not use any existing and readily available data and information for any one of the categories of waters as described in Sections 130.7(b)(5) and 130.7(b)(6)(iii).

Starting in 2002, Maryland developed and published for public review of the Listing Methodologies to describe the State's interpretation of its WQS and establish scientifically defensible approaches for determining water body impairment. Listing Methodologies are not considered rules, but rather provide a means to provide consistency and transparency in Integrated Reporting so that the public and other interested stakeholders understand why listing decisions are made and can independently verify listing decisions. The methodologies are living documents that are revised as new statistical approaches, technologies, or other improved methods are adopted by the State. When changes are proposed to the Listing Methodologies, Maryland advertises the revised methodologies for public review via the biennial Integrated Report.

In Maryland's Section 305(b) Report, certain water bodies are conditionally approved shellfish areas. A sub-set of these water bodies are restricted because they are closed for administrative reasons under guidance of the National Shellfish Sanitation Program. Typically, these waters are restricted due to their vicinity to wastewater treatment plants and the restriction is precautionary against the potential treatment system failure, rather than an expression of failure to meet WQS. In accordance with MDE's listing methodology, both administratively restricted and conditionally approved shellfish waters are not listed on the Section 303(d) list.

D. Rationale for delisting of waterbodies from the previous 303(d) list.

Maryland has indicated, in the Integrated Report (Table 19), that thirty eight delistings have occurred during this cycle. Twenty one of these were generic biological listings (cause unknown) that did not specify a particular pollutant or stressor as the cause of impairment. These listings have now been replaced by specific pollutant/stressor listings enumerated by the Biological Stressor Identification analyses.

The remaining seventeen delistings resulted from Water Quality Analyses, reassessments using newer data, or reassessments of the appropriate use. Water Quality Analyses (WQA) are completed when State scientists collect detailed information for a listed water body in anticipation of a TMDL and find that the water body is not impaired. New assessments or reassessments are simply a reanalysis of more recent water quality data collected by ongoing monitoring and assessment programs.

Four of the remaining seventeen delistings resulted from recently completed total phosphorus WQAs. Two more delistings resulted from total suspended solids WQAs, two resulted from a chromium WQA, one resulted from a copper WQA, and one other delisting resulted from a mercury in fish tissue WQA.

Another four listings, manganese impairments to the drinking water use (MD-021410050039-Laurel_Run, MD-021410050040-Sand_Run, MD-021410050048-

Three_Forks_Run, MD-021410050049-Elklick_Run), were delisted based on analyses of finished water from the Luke water filtration plant (the nearest drinking water intake to these tributaries). All yearly samples collected between 2006 and 2011 showed manganese levels below the 0.05mg/l national secondary drinking water standard.[1] Since manganese is only known to have organoleptic (taste, odor, and staining) effects and since no additional treatment processes were required to meet this standard, these listings were moved to Category 2.

One listing for the Choptank River (MD-CHOMH1), was delisted because new estuarine bioassessment data demonstrated aquatic life use support.

The delisting of the Atkisson Reservoir involves a sedimentation/siltation listing. In the 2012 IR the designated use specified for the Atkisson Reservoir listing was the water contact sports designated use. However, review by State staff established that this designated use was erroneously applied (swimming has never been permitted in Atkisson) and instead, should have been specified as the aquatic life designated use. State staff also conducted an exhaustive search for the data that led to the listing of Atkisson Reservoir for sediments. However, no historical or recent data was found that could corroborate this impairment. At the same time, wetland staff from both DNR and MDE concurred that Atkisson Reservoir was now functioning as a beneficial wetland and even contains several rare plant species adapted to this type of environment. With no data to evaluate the potential impact of sediments on this water body and with the uncertain classification of this water feature, MDE chose to move this listing to Category 3 (insufficient information) so that additional information could be collected.

Another subset of listings/geographic areas that are now no longer considered impaired are some that were previously (2012) in Category 4a (impaired, TMDL completed). Four listings (Integrated Report Table 22) met this scenario under which new assessment data demonstrated that water quality criteria were being met. One of these, the Aaron Run pH listing, was particularly noteworthy as it represents the first instance where a state restoration project was directly linked to water quality standards attainment. At Aaron Run, MDE and DNR staff cooperated to remediate acid mine drainage seeps and restore native fauna. This stream was then monitored for attainment of pH criteria and for trout survival and reproduction. In all cases, the State achieved success.

One final subset of delistings (that were not counted in Table 19) occurred in the 2014 IR that simultaneously resulted in several assessment units being split. This unique scenario happened due to the reassessment of several Category 4b (impaired, technological solution to be implemented) listings in the tidal portion of the Patapsco River (PATMH). These listings were originally based on point source information characterized on 304(l) lists produced by Maryland in the 1980s. The listings describe toxic pollutants discharged from Bethlehem Steel, Erachem Comilog Inc., and Cristal (formerly Millenium Inorganic Chemicals). In the 2012 IR, these listings existed as three separate records (Table 23); one each for copper, cyanide, and nickel. Each listing record addressed multiple point sources. To help better characterize the distinct geographic areas affected by the contributing point sources, these three listings were split (in the 2014 IR) into twelve new listings (Table 24). The single copper listing now became 4 listings,

[1] Maryland has not adopted this standard into Code of Maryland Regulations (COMAR). Instead, the Department has only used this level (0.05mg/l) as a general guideline for assessing manganese data.

the nickel listing became 5 listings, and the cyanide listing changed to 3 listings, all to reflect the distinct NPDES outfalls implicated in the original 304(l) listings. In total, seven of these twelve new listing records were moved to Category 2 due to the reassessment. In those seven cases, MDE staff reviewed discharge monitoring report (DMR) data and new ambient water quality data which demonstrated that water quality criteria were being met. The remaining 5 listing records still require more data collection and analysis to either confirm impairment or to demonstrate water quality standards attainment. The State will be following up on these remaining Category 4b listings in hopes of addressing them by the 2016 Integrated Report (IR).

Maryland has demonstrated, to EPA's satisfaction, its rationale for these delistings.

E. Rationale for Maryland's decision not to list waters pursuant to 40 CFR 130.7(b)(1) because they are expected to meet water quality standards.

Maryland's decision not to include waters on its 2014 Section 303(d) list due to other required pollution controls is consistent with EPA regulations at 40 CFR 130.7(b)(1). These waters were identified in Category 4b of the Integrated Report. Under 40 CFR 130.7(b)(1), states are not required to list WQLSs still requiring TMDLs where effluent limitations required by the CWA, more stringent effluent limitations required by state or local authority, or other pollution control requirements required by state, local, or federal authority, are stringent enough to implement applicable WQS. The regulation does not specify the timeframe in which these various requirements must implement applicable WQS to support a state's decision not to list particular waters. EPA expects that required controls will result in attainment in a reasonable time, based on the nature of the pollutant and actions that need to be taken to achieve attainment.

Monitoring should be scheduled for these waters to verify that the water quality standard is attained as expected in a reasonable time frame. Where standards will not be attained through implementation of the requirements listed in 40 CFR 130.7(b)(1) in a reasonable time, it is appropriate for the water to be placed on the Section 303(d) list to ensure that implementation of the required controls, and progress towards compliance with applicable standards, is tracked. If it is determined that the water is, in fact, meeting applicable standards when the next Section 303(d) list is developed, it would be appropriate for the state to remove the water from the list at that time.

As stated above, Maryland has several listings in Category 4b in the tidal portion of the Patapsco River (PATMH). The listings are for copper, cyanide, and nickel discharged from Bethlehem Steel, Erachem Comilog Inc., and Cristal (formerly Millenium Inorganic Chemicals). Based on review of DMR data and new ambient water quality data, which demonstrated that water quality criteria were being met, seven of these listing records were moved to Category 2. The remaining five listing records still require more data collection and analysis to either confirm impairment or to demonstrate water quality standards attainment.

Consistent with a program of continuous assessment, EPA encourages MDE to continue efforts, including monitoring as appropriate, to provide updates on the status of the segments and to confirm that the delistings remain supportable. Given the basis for the original listing, EPA agrees with the basis for the delistings. As part of the 2016 Integrated Report, MDE would

review the remainder of waters identified in Category 4b to determine whether the water quality standards are expected to be attained in a reasonable time or whether the waters need to be moved to Part 5. EPA recommends that MDE collect and analyze ambient water quality data as part of its analysis.

Priority Ranking and Targeting

MDE used the same priority ranking methodology used in previous lists. Within the Section 303(d) list, Maryland has provided both a priority ranking of high, medium, or low, and a separate indication for waters targeted for TMDL development in the next two years. In general, criteria that affect human health or have an extreme effect on natural resources are ranked high, criteria that indicated a continuing downward trend in the loss of a significant resource, create a serious nuisance, or constitute a significant loss of a natural resources are ranked as medium, and the remaining cases rank low.

EPA concludes that the State properly took into account the severity of pollution and the uses to be made of such waters. Scheduling, however, takes into account additional considerations other than priority designations, such as programmatic consideration (e.g., efficient allocation of resources, basin planning cycles, coordination with other programs or states) and technical considerations (e.g., data availability, problem complexity, availability of technical tools). This is consistent with EPA guidance. In addition, EPA reviewed the State's identification of WQLSs targeted for TMDL development in the next two years (i.e., those targeted as a high priority), and agrees that the targeted waters are appropriate for TMDL development in this timeframe.

Consultation with Other Agencies

EPA initiated informal consultation with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) (collectively the Services) through a letter sent on August 29, 2014. This letter included a hard copy of the draft 2014 Integrated Report as well as the website link. FWS and NMFS provided information regarding species in Maryland's waters which are federally listed or proposed for listing as endangered and threatened, on September 30, 2014 and May 28, 2015, respectively. A copy of the final 2014 Integrated Report and a Biological Evaluation (BE) was sent to the Services on July 21, 2015. EPA concluded that approval of the 2014 Maryland Section 303(d) List will result in the identification of impaired waters, which may in turn lead to establishment of TMDLs or other measures to attain and/or maintain applicable WQS. Therefore, EPA approval of the Section 303(d) List would benefit, and is not likely to adversely affect, listed species and their critical habitat. NMFS and FWS concurred with EPA's conclusion in letters sent on August 28, 2015 and September 29, 2015, respectively. However, EPA encourages MDE to consider the presence of endangered and threatened species when setting priorities for monitoring and/or TMDL development.