8.5 Appendix E – Comment Response Document for the Draft 2002 List of Impaired Surface Waters [303(d) List] and Integrated Assessment of Water Quality in Maryland.

List of Commenters

Author	Affiliation	Date
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Patricia Gleason and Elaine Harbold	**EPA Region III**	**3/27/02**
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Comments

Comment 1: At the January Potomac shared strategy meeting, MDE indicated that nutrient and sediment impairments would be removed (delisted) UNLESS there was data that showed local impairments? Wouldn't that mean that tributaries like Cabin John Creek, Seneca Creek, etc. if they were only listed because they contributed to downstream impairments?

MDE Response: The only water bodies that were previously listed for which no impairment was monitored or assessed were the 10, 6-digit tributary basins. These were not retained in the 2002 list. We have reviewed the available data for the Potomac listings and found that either the listings were justified or that we did not have sufficient data to de-list. If subsequent data or re-analysis in the light of new standards demonstrates that a water body is not impaired, then it will be de-listed.

Comment 2: I was unable to locate in the accompanying text a definition of the occasional numeric values found in the Priority column.

MDE Response: All of the former numerically ranked waters listed still remaining on Part-5 of the 1996 303(d) List have been changed to a high priority.

Comment 3: On page 3-7, the Draft states "there were no waters at this time for which Part 3 of the list was appropriate." Part 3 refers to waters as to which there is insufficient or no data and information to determine if any water quality standard is attained. However, on page 5-8, with respect to large waterbodies originally identified on Maryland's 1996 Section 303(d) List in connection with impairment of the mainstem of the Chesapeake Bay for nutrients, the Draft states "attainment status has been changed to a 6 because of insufficient data and for consistency with the 8-digit geographic resolution used throughout the document." It is unclear whether the attainment status of these large waterbodies has been changed to a 6 because (1) there is insufficient data to determine whether they are impaired for nutrients, in which case it would seem that these waters could be included in category 3, or (2) the attainment status of the larger waterbodies was changed to 6 because the State has broken the larger waterbodies down into smaller segments for analysis and, where appropriate, inclusion on the Section 303(d) portion of the List.

MDE Response: Scenario two is the relevant case. The larger 6-digit watersheds were changed to reflect Maryland's 8-digit scale for listing waters on the 303(d) list. After making this change, the 6-digit listings became redundant and were therefore removed from the list. This has been corrected in the text (see §5.4.2).

In addition, and in response to some following comments, the Department did add some waters to Part-3 of the list due to insufficient and/or antiquated data that may not be representative of current water quality conditions. Accordingly, page 3-7 as well as other related sections of the List have been updated to indicate that Part-3 was used in the final List.

Comment 4: Section 4. "Listing Methodologies" should include a methodology for listing of impaired segments for mercury. In addition, the methodology section should include a

discussion as to how the State considered the data sources identified in 40 CFR 130.7(b)(5) other than the Section 305(b) Report, including but not limited to, waters identified by the State as impaired or threatened in a nonpoint assessment submitted to EPA under section 319 of the CWA or any updates (see 40 CFR 130.7(b)(5)(iv). We also suggest that the methodology for biological assessment include a definition of IBI and the significance of scores below 3.

MDE Response: A discussion of the methodology and thresholds for mercury listings has been provided in the fish tissue section of the toxics listing methodology (§4.5.7). Clarification of the data sources used for 303(d) listing has also been provided in §3.0 of the 2002 Integrated List. The Department will also seek to incorporate the suggested changes into the Biocriteria listing methodology when it is updated.

Comment 5: Although Section 6 discusses the requirement in 40 CFR 130.7(b)(4), the draft list does not appear specifically to identify waters targeted for TMDL development in the next two years. It would also be useful to include a table clarifying the timing of activities in the various watersheds in connection with the discussion of the Watershed Cycling Strategy in Appendix E.

MDE Response: §6.1 of the Draft 2002 Integrated 303(d) List clearly states that "TMDL work would begin on high priority waters within two years even though they might not be completed in two years". However, a check box has also been included in the final list to identify those listings targeted for TMDL development in the next two years.

In addition to the high priority waters, some other lower priority waters have also been targeted for TMDL development in the next two years. Consult §6 for specific updated language on TMDL development and priority ranking. As the Department is still refining a monitoring strategy, MDE will consider adding a table in future lists to clarify the timing of activities related to TMDL development.

Comment 6: The following waters appear on the 1998 Section 303(d) list, but not in the attainment status 5 portion of the Draft 2002 list. Please include these waters as attainment status 5, provide an explanation as to why attainment status 5 is not supported, or provide the explanation requested.

1. 02-13-09-03 Northwest Branch/Inner Harbor listings for Cu, Zn, Pb, PCBs

MDE Response: These were duplications discussed in the de-listing section (Section 5.4) of the Draft 2002 Integrated 303(d) List. These listings are still in the list under basin code 02-13-09-03.

2. 02-13-09-08 Piney Run Reservoir, South Branch Patapsco, needs to be clarified on the 2002 list. On the draft 2002 list the South Branch Patapsco River Impoundment is identified, but the name Piney Run Reservoir should be identified for nutrients, and sedimentation.

MDE Response: Piney Run has been retained as the impaired sub-basin in the South Branch Patapsco River.

3. 02-13-11-07 Rocky Gorge Reservoir needs to be clarified if it is also Ducket Reservoir.

MDE Response: Yes, Rocky Gorge Reservoir is the same as Ducket Reservoir. For the purposes of standardizing basin names in the draft list, some changes were made from earlier 303(d) Lists - see §5.4.6 of the 2002 List.

4. 02-13-11-08 needs to be clarified that Triadelphia is Brighton Dam.

MDE Response: Yes, Triadelphia Reservoir is the same as Brighton Dam. For the purposes of standardizing basin names in the draft list, changes were made from earlier 303(d) Lists - see §5.4.6 of the 2002 List.

5. 02141005, Upper North Branch of Potomac River includes a listing for sulfates; this does not appear on the draft 2002 list. Please clarify.

MDE Response: The sulfate impairment category has been changed to pH while the impairing substance has been changed to low pH – acid mine drainage. The Department feels that these changes more accurately characterize the impairment in the basin.

Comment 7: The following waters are identified in Maryland's 2000 Section 305(b) Report as not or partially supporting designated uses. Please include these waters as attainment status 5, provide an explanation as to why attainment status 5 is not supported, or provide the explanation requested.

1. Bishopville Pond-partially supporting, p. 105, Ocean 02-13-01

MDE Response: Since the age of the data used for this lake assessment exceeds the maximum age limits defined in the MDE/DNR joint data solicitation letter (Appendix A) and because these assessments may not be reflective of current water quality conditions, the Department needs more data to make a reliable impairment determination. Therefore, this water body will be placed on Part-3 of the 2002 List as having insufficient data to make an impairment determination.

2. Wye Mills Community Lake-partially supporting, p. 122 Chester River 02-13-05

MDE Response: Since the age of the data used for this lake assessment exceeds the maximum age limits defined in the MDE/DNR joint data solicitation letter (Appendix A) and because these assessments may not be reflective of current water quality conditions, the Department needs more data to make a reliable impairment determination. Therefore, this water body will be placed on Part-3 of the 2002 List as having insufficient data to make an impairment determination.

3. Myrtle Grove Lake-partially supporting, p. 160, Lower Potomac 02-14-01

MDE Response: Since the age of the data used for this lake assessment exceeds the maximum age limits defined in the MDE/DNR joint data solicitation letter (Appendix A) and because these assessments may not be reflective of current water quality conditions, the Department needs more data to make a reliable impairment determination. Therefore, this water body will be placed on Part-3 of the 2002 List as having insufficient data to make an impairment determination.

4. Potomac River-Washington Metro, p. 165, the 2000 305b report states "four remaining impoundments are listed as partially supporting" Lake Frank, lake Needwood, Little Seneca Lake, Clopper Lake.

MDE Response: Lakes (Bernard) Frank and Needwood were both listed for nutrients in 1998 (under Rock Creek 02140206). Clopper Lake was already listed in 1998 for Nutrients and Sediment and Little Seneca Lake was already listed for Nutrients in 1998 (both under Seneca Creek 02140208).

5. Hunting Creek Lake-partially supporting, p. 160, Middle Potomac, 02-14-03

MDE Response: Since the age of the data used for this lake assessment exceeds the maximum age limits defined in the MDE/DNR joint data solicitation letter (Appendix A) and because these assessments may not be reflective of current water quality conditions, the Department needs more data to make a reliable impairment determination. Therefore, this water body will be placed on Part-3 of the 2002 List as having insufficient data to make an impairment determination.

6. Cunningham Lake-partially supporting, p. 181, Youghiogheny, 05-02-02

MDE Response: Since the age of the data used for this lake assessment exceeds the maximum age limits defined in the MDE/DNR joint data solicitation letter (Appendix A) and because these assessments may not be reflective of current water quality conditions, the Department needs more data to make a reliable impairment determination. Therefore, this water body will be placed on Part-3 of the 2002 List as having insufficient data to make an impairment determination.

7. Bacteria-Table 25, Restricted/conditionally approved shellfish harvesting areas, Dec. 1999, page 36, Tangier Sound 02130206, Big Annemesssex River 02130207, MiddleChesapeake Bay, Lower Chesapeake Bay, Lower Potomac River, are listed due to vicinity of WWTP, but also describe nonpoint runoff/rain, poor flushing.

MDE Response: The Department does not list conditionally approved shellfish waters for TMDL development (see bacteria listing methodology - §4.4).

8. Chesapeake Bay Sub-basin 02-13-99 P. 102 states High fecal coliform bacteria levels which have closed several shellfish harvesting areas, (19.1 square miles in Middle Chesapeake Bay; 4.6 square miles in Lower Chesapeake Bay. . . largely result of unspecified nonpoint source runoff."

MDE Response: The Department does not list conditionally approved shellfish waters for TMDL development (see bacteria listing methodology - §4.4).

9. Pocomoke River 02-13-02, p. 109, Tangier Sound and Big Annemessex are identified as not or partially supporting uses due to fecal coliform.

MDE Response: The Department does not list conditionally approved shellfish waters for TMDL development (see bacteria listing methodology - §4.4).

10. Choptank River 02-13-04, p. 117, Little Choptank River and Lower Choptank River are identified as not or partially supporting uses due to nutrients.

MDE Response: The Department does not list conditionally approved shellfish waters for TMDL development (see bacteria listing methodology - §4.4).

11. Lower Potomac River 02-14-01, p. 159, is identified as not or partially supporting uses due to fecal coliform.

MDE Response: The Department does not list conditionally approved shellfish waters for TMDL development (see bacteria listing methodology - §4.4).

12. P. 160, St. Mary's Lake is partially supporting designated uses.

MDE Response: St. Mary's Lake is already listed, albeit the wrong basin name was used in 1998 for the St. Mary's Lake listing (listed with the incorrect basin name of Piscataway Creek, when it should have been St. Mary's River). This correction has been made in the current list, see §5.4.6, and may be the source of confusion.

13. Upper Monocacy River 02140303, p. 168, shows high temperature levels above Use III criteria.

MDE Response: This water body is designated as Use IV-P waters and is therefore held to temperature restrictions less stringent than those required for Use III waters.

14. Double Pipe Creek 02140304, p. 169, shows elevated bacterial levels.

MDE Response: Since the age of the data used for this lake assessment exceeds the maximum age limits defined in the MDE/DNR joint data solicitation letter (Appendix A) and because these assessments may not be reflective of current water quality conditions, the Department needs more data to make a reliable impairment determination. Therefore, this water body will be placed on Part-3 of the 2002 List as having insufficient data to make an impairment determination.

15. Page 5-9, item 2. Baltimore Harbor. Report states was listed 2 times for copper and then says "Consolidated them into one Baltimore Harbor listing for nickel. . . " should it say copper? Please clarify.

MDE Response: Corrected

Comment 8: From the Susquehanna River Basin Commission (SRBC), assessment of boundary waters of Maryland, these streams should be attainment status 5 or an explanation should be provided as to why attainment status 5 is not supported. EPA has approved the SRBC data quality assurance plan.

1. Ebaugh Creek, 1.25 miles, assessment-partially supporting, cause-TDS, chlorine, source-Municipal Discharge.

MDE Response: Both Ebaugh and Deer Creeks are currently listed as biologically impaired in the 2002 List. Future stressor identification surveys will be conducted to target the cause of the biological impairment.

2. Long Arm Creek, 1.1 miles, assessment, partially supporting, cause- nutrient, source - agriculture.

MDE Response: In the absence of nutrient criteria for non-tidal streams in Maryland, the weight-of-evidence of data provided by the SRBC for Long Arm Creek does not indicate a clear nutrient impairment. In addition, a review of Pennsylvania's Draft 303(d) List did not reveal any listings for Long Arm Creek.

3. Conowingo Creek, 4.0 miles, assessment, partially supporting, cause-siltation, nutrients, source-agriculture.

MDE Response: Conowingo Creek is currently listed as biologically impaired in the 2002 List. Future stressor identification surveys will be conducted to target the cause of the biological impairment.

4. Falling Branch Deer Creek, 0.25 miles, assessment-partially supporting, cause-siltation, nutrients, source-agriculture.

MDE Response: Deer Creek is currently listed as biologically impaired in the 2002 List. Future stressor identification surveys will be conducted to target the cause of the biological impairment.

Comment 9: Table 2 provides comments with respect to specific waterbodies. These comments generally fall into two categories. First, there are some waters for which data have been identified that may support inclusion of the water or a pollutant as attainment status 5. In those instances, we suggest that the State either include the water and/or pollutant as attainment status 5 or provide an explanation as to why the data does not support attainment status 5. Second, there are waters identified as attainment status 5 as to which we have not located data which supports a localized impairment.

MDE Response: The responses to comments in Table 2 fell into a relatively small number of categories that are listed below in Table 1.

Table 1: Response categories for comments given in Table 2.

Category	Impairment Type	Explanation
Category 1	Bacteria	**Conditionally Approved Shellfish Waters are not listed see bacteria listing methodology - §4.4.**
Category 2	Any	**Listed in 2002**
Category 3	pH	**Nutrient driven high pH (already listed for nutrients). pH added as supporting data for the nutrient impairment.**
Category 4	Any	**Do not have data.**
Category 5	DO	**Nutrient driven low DO. Water body already listed for nutrient impairment. Chronic low DO will be added as supporting data for nutrient impairment.**
Category 6	Any	**Insufficient Data. Based upon only a single MBSS data point and is not a representative measure.**
Category 7	Any	**Data more than six years old**
Category 8	Any	**Misinterpretation**
Category 9	Mercury	**Below 235ppm threshold for 303(d) listing in fish tissue**
Category 10	MBSS documented siltation	**Sedimentation added to the 303(d) List in the "Impairing Substance" field.**
Category 11	temperature	**No anthropogenic temperature impairment. Meets the ambient standard identified in regulation.**

Table 2: Tabular EPA Comments for Specific Waters

Basin Name	Waterbody Code	Impairment Category	Comment	MDE Response
Middle Chesapeake Bay	02139997-E-1	Bacteria	2000 305(b) data indicates bacteria as an impairment category. Not mentioned in this listing	Category 1
Lower Chesapeake Bay	02139998-E-1	Bacteria	2000 305(b) data indicates bacteria as an impairment category. Not mentioned in this listing	Category 1
Potomac River, lower tidal	02140101-E-1	Bacteria	2000 305(b) data indicates bacteria as an impairment category. Not mentioned in this listing	Category 1
Gilbert Swamp	021401070750	Bacteria	2001 305(b) data indicates bacteria as an impairment category in this nontidal reach. Not mentioned in this listing	In consultation with DNR, we could find no impairment in this 12-digit watershed.
Antietam Creek	02140502	Bacteria	2001 305(b) data should be referenced as latest assessment update.	Added a 2001 305(b) reference
Conocheague Creek	02140504	Bacteria	2001 305(b) data should be referenced as latest assessment update.	Added a 2001 305(b) reference
Evitts Creek	02141002-L-1	Bacteria	2001 305(b) data indicates bacteria as an impairment category. Not mentioned in this listing	Episodic bathing beach closures due to temporary infrastructure malfunctions are not listed (technological fix)

Tangier Sound	02130206-E-1	Bacteria	2000 305(b) data indicates bacteria as an impairment category. Not mentioned in this listing.	Category 1
Big Annemessex River	02130207-E-1	Bacteria	2000 305(b) data indicates bacteria as an impairment category. Not mentioned in this listing	Category 1
Youghiogheny River	05020201	Bacteria, pH	2001 305(b) data should be referenced as latest assessment update	Added 2001 305(b) reference
Little Youghiogheny River	05020202	Bacteria, pH	2000 and 2001 305(b) data should be referenced as latest assessment update	Added a 2000 & 2001 305(b) reference for bacteria Category 3 for elevated pH.
Wills Creek	02141003	Bacteria, pH, Sediment	2001 305(b) data should be referenced as latest assessment update	Added 2001 305(b) Reference
Isle of Wight Bay	02130103-E-1	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category.	Category 5
Newport Bay	02130105-E-1	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category.	Category 5
Pocomoke Sound	02130201-E-1	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing.	Category 5

Lower Pocomoke River	02130202-E-1	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing.	Category 5
Lower Pocomoke River	021302020632	Dissolved Oxygen	2000 305(b) data indicates oxygen as impairment category in this nontidal reach. Not mentioned in this listing	Category 5
Manokin River	02130208-E-1	Dissolved Oxygen	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing.	Category 5
Lower Wicomico River	021303010560	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 6
Transquaking Creek	021303080597	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 6
Transquaking Creek	02130308	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing.	Category 5

Little Choptank River	02130402-E-1	Dissolved Oxygen .	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing.	Category 5
Upper Choptank River	021304040509	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 6
Eastern Bay	02130501-E-1	Dissolved Oxygen	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing.	Category 5
Upper Chester River	02130505-E-1	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing.	Category 5
Corsica Creek	021305070397	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 6
Upper Chester River	021305100425	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 6

Still Pond-Fairlee	02130611-E-1	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing.	Category 5
Bush River	021307011129	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 6
Lower Winters Run	02130702-L-1	Dissolved Oxygen	2000 305(b) evaluated data indicates low dissolved oxygen as an impairment category in this impoundment. Not mentioned in this listing.	Category 7
Loch Raven Reservoir	02130805-L-1	Dissolved Oxygen	2000 305(b) evaluated data indicates low dissolved oxygen as an impairment category in this impoundment. Not mentioned in this listing.	Category 7 (does not exceed criteria for mesotrophic lake-D.O. 0-8%)
Magothy River	02131001-E-1	Dissolved Oxygen	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 5
Severn River	021310020997	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 6

South River	02131003-E-1	Dissolved Oxygen	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 5
Patuxent River, lower	02131101-E-1	Dissolved Oxygen	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 5
Patuxent River, middle	02131102-E-1	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 5
Rocky Gorge Dam	02131107-L-1	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 7
Brighton Dam	02131108-L-1	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 7
Middle Chesapeake Bay	02139997-E-1	Dissolved Oxygen	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 5

Lower Chesapeake Bay	02139998-E-1	Dissolved Oxygen	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 5
Potomac River, lower tidal	02140101-E-1	Dissolved Oxygen	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 5
St. Mary's River	02140103-L-1	Dissolved Oxygen	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 7
St. Clements Bay	021401050726	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 6
Gilbert Swamp	021401070750	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 6
Potomac River, Upper tidal	02140201E-1	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 5

Seneca Creek	02140208-L-1	Dissolved Oxygen	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category in this impoundment. Not mentioned in this listing	Category 7
Fifteen Mile Creek	021405110135	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category in this reach. Not mentioned in this listing.	Category 8 (D.O. = 11.36)
Little Youghiogheny River	05020202	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing.	Part of Broadford Lake TMDL intensive. Little Youghiogheny does not show an impairment based on last six years of data.
Deep Creek Lake	05020203	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing.	Category 7
Casselman River	05020204	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this list.	Most recent six year data set does not indicate an impairment
Middle River - Browns Creek	02130807-E-1	Dissolved Oxygen -	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 5

Back River	021309011139 021309011140 021309011141 021309011142	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as an impairment category in these nontidal reaches. Not mentioned in this listing.	Category 6
Pretty Boy Reservoir	02130806-L-1	Dissolved Oxygen	2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing	Category 7
Tangier Sound	02130206-E-1	Dissolved Oxygen	2000 and 2001 305(b) data indicates low dissolved oxygen as an impairment category. Not mentioned in this listing.	Category 5
Nassawango Creek	021302050669	Dissolved Oxygen	2000 305(b) data indicates low dissolved oxygen as impairment category in this nontidal reach. Not mentioned in this listing	Category 6
Wicomico Creek Headwaters	01230304-L-1	Metals	There is no mention of this impoundment being singled out for methylmercury in the latest MDE fish advisory release. Is this a mistake or does site specific data warrant this listing?	Category 9
Tuckahoe Creek	02130405-E-1	Metals	This waterbody is not in the latest MDE fish consumption advisory although the mainstem of the Choptank River is on the list. Provide clarification.	Crouse Mill Lake aka (Tuckahoe Lake) is listed for mercury, Choptank is listed for PCB's only

Brighton Dam	02131108-L-1	Metals	There is no specific mention of a methylmercury fish consumption advisory in the latest MDE advisory release. Please clarify; does site specific data warrant this listing?	Category 9
Seneca Creek	02140208-L-2	Metals	There is no specific mention of a methylmercury fish consumption advisory in the latest MDE advisory release. Please clarify, or does site specific data warrant this listing?	Category 9
Upper North Branch Potomac River	02141005	Metals	There is no mention of this river reach being singled out for methylmercury in the latest MDE fish advisory release. Please clarify or does site specific data warrant this listing?	Category 2
Little Youghiogheny River	05020202-L-1	Metals	There is no specific mention of a methylmercury fish consumption advisory in the latest MDE advisory release. Please clarify or does site specific data warrant this listing.	Category 2 Broadford Lake has been added based upon new data.
Pretty Boy Reservoir	02130806-L-1	Metals	There is no specific mention of this methylmercury fish consumption advisory in the latest MDE advisory release. Please clarify.	Category 2

Broad Creek, Susquehanna River	02120205	-Metals-	There is no mention of the methylmercury MDE fish consumption advisory for this creek. The Conowingo Dam advisory map has part of Broad Creek highlighted along with the Conowingo Dam.	Category 9
Isle of Wight Bay	02130103-E-1	Nutrient	2000 305(b) data indicates nutrient as an impairment category. Not mentioned in this listing.	2000 305(b) Citation added
Transquaking Creek	02130308	pH	2001 305(b) data indicates low pH as an impairment category. Not mentioned in this listing.	Category 3 TMDL complete for nutrient driven algae blooms in tidal portion. The low pH referred to results from natural organic acids in the tidal fresh area
Patuxent River, middle	02131102	pH	2001 305(b) data indicates low pH as an impairment category. Not mentioned in this listing	Do not list. Natural organic acids.
Potomac River, middle tidal	02140102-E-1	pH	2001 305(b) data indicates low pH as an impairment category. Not mentioned in this listing	Do not list. No monitoring results
Potomac River, Upper tidal	02140201E-1	pH	2001 305(b) data indicates high pH as an impairment category. Not mentioned in this listing	Category 3

Anacostia River	02140205	pH	2001 305(b) data indicates low pH as an impairment category. Not mentioned in this listing	No monitoring results
Conocheague Creek	02140504	pH	2001 305(b) data indicates high pH as an impairment category. Not mentioned in this listing.	De-listed under good cause provision with 1999 data, no nutrient problem. Data continues to display spikes of high pH > 15% in lower station (CON0005). Add to list.
Lower North Branch, Potomac River	021410010057	pH	2000 305(b) data indicates low pH as an impairment category in this reach. Not mentioned in this listing.	pH still above water quality criteria of 6.5
Wills Creek	021410030099	pH	2000 305(b) data indicates pH as impairment category in this reach. No specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02141003.	pH added to the "impairing substance" field under the biological impairment.
Georges Creek	021410040088 021410040092 021410040094	pH	2000 305(b) data indicates pH as impairment category in these reaches. No specific mention of these reaches in this listing although older general pH impairment category noted for 8-digit HUC 02141004. References need to be updated.	pH added to the "impairing substance" field under the biological impairment.

Upper North Branch Potomac River	021410050046 021410050048	pH	2000 305(b) data indicates pH as impairment category in these reaches. No specific mention of these reaches in this listing although older general pH impairment category noted for 8-digit HUC 02141005. References need to be updated.	pH added to the "impairing substance" field in the biological impairment for 021410050048. Basin code 021410050046 pH pH still above water quality criteria of 6.5
Deep Creek Lake	05020203	pH	2000 and 2001 305(b) data should be referenced as latest assessment update	2000 and 2001 305(b) report has been added to the list of supporting data.
Casselman River- Big Piney Reservoir	05020204-L-1	pH	2000 305(b) data indicates low pH as an impairment category. Not mentioned in this listing	Category 7
Casselman River	05020204	pH	2001 305(b) data indicates low pH oxygen as an impairment category. Not mentioned in this listing. Is this an enforcement case.	Already listed for pH in 1996. Category 5 for the DO
Isle of Wight Bay	02130103-E-1	pH	2001 305(b) data indicates high pH as an impairment category. Not mentioned in this listing.	Category 3 TMDL complete
Newport Bay	02130105-E-1	pH	2001 305(b) data indicates high pH as an impairment category. Not mentioned in this listing.	Category 3

Pocomoke Sound	02130201-E-1	pH	2001 305(b) data indicates pH as an impairment category. Not mentioned in this listing.	Do not list. No monitoring results
Lower Pocomoke River	02130202-E-1	pH	2001 305(b) data indicates pH as an impairment category. Not mentioned in this listing.	Do not list. Natural organic acids
Tangier Sound	02130206-E-1	pH	2000 and 2001 305(b) data indicates low pH as an impairment category. Not mentioned in this listing.	Do not list. No monitoring results.
Manokin River	02130208-E-1	pH	2001 305(b) data indicates low pH as an impairment category. Not mentioned in this listing.	Do not list. Natural organic acids
Conowingo Dam, Susquehanna River	02120204-L-1	Sediment	2001 305(b) data indicates siltation as an impairment category in this impoundment. Not mentioned in this listing.	2001 305(b) Report added as supporting data for the 1996 sediment listing.
Lower Wicomico River	021303010560	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 10
Wicomico Creek	021303030565	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. No specific mention of this reach in this listing although older general sediment impairment	Category 10

			category noted for 8-digit HUC 02130303.	
Marshyhope Creek	021303060615	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. No specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02130306.	Category 10
Little Choptank River	021304020459	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. No specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02130402.	No record of this 12-digit impairment in the 2000 305(b) report
Upper Choptank River	021304040490 021304040502 021304040504 021304040509	Sediment	2000 305(b) data indicates siltation as an impairment category in these nontidal reaches. No specific mention of these reaches in this listing although older general sediment impairment category noted for 8-digit HUC 02130404.	Category 10 (except for 021304040502 which has been delisted as per communication with DNR indicating that the benthic sample was corrupted and the data should not be used).
Tuckahoe Creek	021304050517 021304050529 021304050534 021304050537	Sediment	2000 305(b) data indicates siltation as an impairment category in these nontidal reaches. Not mentioned in this listing.	Category 10
Southeast Creek	021305080398	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. No specific mention of this	Category 10 (no MBSS sediment impairment documented in some

			specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02130508.	stations in 12-digit basin)
Upper Chester River	021305100425	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 10
Bohemia River	021305020365	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 10
Bynum Run	021307041131	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. No specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02130704.	Category 10
Swan Creek	021307061135	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. No specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02130706.	Category 10

Baltimore Harbor	021209031006 021309031008	Sediment	2000 305(b) data indicates siltation as an impairment category in these nontidal reaches. Not mentioned in this listing.	Category 10
Jones Falls	021309041034	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. No specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02130904.	No apparent sediment impairment. MBSS notes document a concrete channel.
Gwynns Falls	021309051044	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. No specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02130905.	Category 10 (no sediment impairment documented in some stations in 12-digit basin)
Liberty Reservoir	021309071054	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. No specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02130907.	Category 10
Magothy River	021310011004 021310011005	Sediment	2000 305(b) data indicates siltation as an impairment category in these nontidal reaches. No specific mention of this reach in this listing although older general	Category 10

			sediment impairment category noted for 8-digit HUC 02131001.	
West River	021310040985	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 10
Other West Chesapeake Bay Drainage	021310050976	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 10
Patuxent River, middle	02131102	Sediment	2001 305(b) data indicates siltation as an impairment category. Not mentioned in this listing.	Already listed in 1996
Western Branch	021311030923 021311030923	Sediment	2000 305(b) data indicates siltation as an impairment category in these nontidal reaches. Not mentioned in this listing.	Category 10
Little Patuxent River	021311050949	Sediment	2000 305(b) data indicates siltation as an impairment category in these nontidal reaches. No specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02131105.	Category 10
St. Clements Bay	021401050726	Sediment	2000 305(b) data indicates siltation as an impairment category in this nontidal reach. Not mentioned in this listing.	Category 10 (No sediment impairment mentioned in MBSS for Dynard Run portion of basin)

Anacostia River	02140205	Sediment	2001 305(b) data indicates siltation as an impairment category. 2001 data not included.	Already listed in 1996
Potomac River, Frederick County	021403010211	Sediment	2000 305(b) data indicates siltation as an impairment category. Not mentioned in this listing.	Category 10
Lower Monocracy River	021403020233	Sediment	2000 305(b) data indicates siltation as impairment category in this nontidal reach. No specific mention of these reaches in this listing although older general sediment impairment category noted for 8-digit HUC 02140302.	Category 10 (No sediment impairment in part of the basin designated as Unnamed trib to Carroll Cr.)
Upper Monocracy River	021403030245 021403030256	Sediment	2000 305(b) data indicates siltation as impairment category in these nontidal reaches. No specific mention of these reaches in this listing although older general sediment impairment category noted for 8-digit HUC 02140303.	Category 10 (No evidence of sediment impairment in 021403030245 in MBSS data)

Double Pipe Creek	021403040268 021403040276 021403030278	Sediment	2000 305(b) data indicates siltation as impairment category in these nontidal reaches. No specific mention of these reaches in this listing although older general sediment impairment category noted for 8-digit HUC 02140304.	Category 10 (No sediment impairment mentioned in MBSS for Meadow Br. , Big Pipe or one of the unnamed tribs to Big Pipe Cr. (all in 021403040278), and Little Pipe Creek (in 021403040276).
Fifteen Mile Creek	021405110140	Sediment	2000 305(b) data indicates siltation as an impairment category. Not mentioned in this listing.	No evidence of sediment impairment in MBSS data
Town Creek	021405120123	Sediment	2000 305(b) data indicates siltation as impairment category in this reach. No specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02140512.	No evidence of sediment impairment in MBSS data other than sedimentation natural beaver activity and wetlands.
Wills Creek	021410030102	Sediment	2000 305(b) data indicates siltation as impairment category in this reach. No specific mention of this reach in this listing although older general sediment impairment category noted for 8-digit HUC 02141003.	No evidence of sediment impairment in MBSS data
Georges Creek	021410040087	Sediment	2000 305(b) data indicates siltation as impairment category in this reach. No specific mention of this reach in this listing although older general sediment	Category 10

			impairment category noted for 8-digit HUC 02141004.	
Upper North Branch Potomac River	021410050046 021410050048	Sediment	2000 305(b) data indicates siltation as impairment category in these reaches. No specific mention of these reaches in this listing although older general sediment impairment category noted for 8-digit HUC 02141005.	Category 10 for Basin code 021410050046. No apparent sediment impairment for Basin code 021410050048.
Youghiogheny River	050202010011 050202010019	Sediment	2000 305(b) data indicates siltation as impairment category in these reaches. No specific mention of these reaches in this listing although older general sediment impairment category noted for 8-digit HUC 05020201.	Category 10 for Basin code 050202010011 No impairments identified in Basin 050202010019
Deep Creek Lake	050202030029	Sediment	2000 305(b) data indicates siltation as an impairment category in this reach. Not mentioned in this listing	Appears to be more of a pH problem. pH rather than sediment listed as impairing substance.
Nassawango Creek	021302050669	Sediment	2000 305(b) data indicates siltation as impairment category in this nontidal reach. Not mentioned in this listing	Category 10
Back River	021309011139 021309011140 021309011141 021309011142	Sediment	2000 305(b) data indicates siltation as an impairment category in these nontidal reaches. Not mentioned in this listing.	Category 10 (No evidence of MBSS sediment impairment in 021309011142, as well as in some

				stations in 021309011139, 021309011140 and 021309011141)
Upper Pocomoke River	021302020648 021302020652 021302020654	Sediment	2000 305(b) data indicates siltation as impairment category in these nontidal reaches. No specific mention of these reaches in this listing although older general sediment impairment category noted for 8-digit HUC 02130202.	Category 10
Lower Pocomoke River	021302020632	Sediment	2000 305(b) data indicates siltation as impairment category in this nontidal reach. Not mentioned in this listing	Category 10
Pretty Boy Reservoir	02130806	Temperature	2001 305(b) data indicates temperature as an impairment category. Not mentioned in this listing	Category 11
Upper Monocracy River	02140303	Temperature	2000 305(b) data indicates temperature as an impairment category. Not mentioned in this listing	Category 11
Youghiogheny River	05020201	Temperature	2000 305(b) data indicates temperature as an impairment category. Not mentioned in this listing	Category 11
Little Youghiogheny River	05020202	Temperature	2001 305(b) data indicates temperature as an impairment category. Not	Category 11

			mentioned in this listing	
Corsica Creek	02130507	Toxics	This waterbody is not in the latest MDE fish consumption advisory for white perch although the mainstem of the Chester River is listed for white perch. Provide clarification.	Part of Chester River listing
Back River	02130901-E-1	Toxics	No mention of MDE fish consumption advisories in the tidal river.	Back River (mainstem) is the tidal portion of the river. Non-tidal tributaries to Back River include Herring Run, Redhouse Run, Moores Run, etc.)
Baltimore Harbor	02130903-E-1	Toxics	No mention of MDE fish consumption advisories for brown bullhead and blue crabs in the tidal river.	Corrected – an impairment for PCBs in fish tissue in Baltimore Harbor (Brown Bullhead in Curtis/Furnace Creeks and Blue Crab in the Middle & Northwest Branches
Potomac River, lower tidal	02140101-E-1	Toxics	No mention of MDE fish consumption advisories in the tidal river.	Covered in the Lower Potomac River (from DC line to the MD 301 bridge)
Potomac River, middle tidal	02140102-E-1	Toxics	No mention of MDE fish consumption advisories in the tidal river.	Covered in the Lower Potomac River (from DC line to the MD 301 bridge)
Potomac River, Upper tidal	02140201E-1	Toxics	No mention of MDE fish consumption advisories in the tidal river.	Covered in the Lower Potomac River (from DC line to the MD 301 bridge)
Lower Susquehanna	02120201	Toxics	Not in latest MDE fish consumption advisory for catfish, perch, bass	Category 8

			for PCBs. Please clarify.	
Loch Raven Reservoir	02130805-L-1	Toxics-	There is no mention of this impoundment being singled out for toxics in the latest MDE fish advisory release. Please clarify.	Erroneously listed for PCBs – removed from the list.

Comment 10: Your website says that there's a forty-five day comment period on the draft 303d list. http://www.mde.state.md.us/tmdl/2002_303dlist/index.html
However, an MDE memo, also posted on your website, indicates that MDE was planning a sixty-day comment period.
http://www.mde.state.md.us/tmdl/2002_303dlist/2002_303d_draft_apndx_c.pdf
Can you enlighten me on this?

MDE Response: When MDE originally announced its intent to issue a draft 2002 303(d) List, it contemplated providing a comment period longer than the thirty-day period typically afforded for department proposals due to the extensiveness of the undertaking and the knowledge that some commenters would be interested in reviewing and commenting on multiple aspects of the list. To ensure that adequate time was built into the process for MDE to review and respond to comments received and make a timely submission to EPA, MDE assumed a sixty-day comment period for planning purposes.

Upon completing the draft list, MDE determined that, although a period of greater than thirty days was appropriate, forty-five days was sufficient for the public to review and prepare comments on the list. The volume and quality of comments received within the public comment period has confirmed this determination.

Comment 11: We were impressed by the DNR and MDE efforts to make a more straightforward connection between the 305(b) water quality assessments and the 303(d) lists of impaired waters, to begin the systematic screening of all readily available data, and to use all data that meets criteria established through publicly reviewed listing methods. However, we note that MDE is closing the comment period for the draft 2002 303 (d) list prior to the release of the 2002 305 (b) report. We made this same comment during the 1998 listing cycle. We have been assured by both DNR and MDE staff that in the future there will be a "consolidated" report that eliminates the issue of having the most current water quality assessment publicly available after the listing of impaired waters.

MDE Response: This is perhaps better addressed by EPA in that they establish the deadlines for 303(d) and 305(b) report submittal. However, the State is aware that EPA recognizes this concern and has been advocating a more integrated 305(b)/303(d) effort. MDE and DNR have been making improvements in this regard by communicating more throughout the report development process and by adopting the same standards by which

a water is identified as impaired. We will continue to build upon this effort between the agencies and feel confident that you will see more integrated reporting in the future.

Comment 12: Since the 1998 listing, we have worked successfully with the State's water resource management agencies to establish minimum data quality objectives and the use of biological assessments to identify impairments. We recognize that the 303(d) list is a technical tool used to set priorities for next steps in addressing water quality impairments. As such, it is extremely important that the State use all data of recognized quality at the most specific level possible. Although this could increase the number of "water quality limited segments", it would better identify reaches in need of restoration from the outset. Not only would this facilitate subsequent targeting for follow-up monitoring, but would also provide a means for local resource allocation to improve conditions in specific reaches and eliminate the need for a TMDL for the entire watershed. Montgomery County is successfully using this approach with the Countywide Stream Protection Strategy, which we are implementing in a systematic fashion to address identified impairments to local streams.

MDE Response: MDE makes extensive efforts to solicit and collect all available data. DNR is specifically working to find ways to incorporate biological data into their assessments in a consistent manner. For this list, the use of biological data played a major role, and is responsible for the new listings. When the time comes to address these impairments, we will be calling on local governments that know their streams best to help us determine the stressors and whether a TMDL or stream restoration is the appropriate response.

Comment 13: We are especially appreciative of MDE's attempt to create a database of specific data used for each water body and of the goal to make this readily accessible by all interested parties. This should facilitate the objective evaluation of data from all sources and the use of comparable quality monitoring data for trends analyses and modeling purposes. The critical link missing at this time is a computerized mapping system to easily determine where data was collected in any particular watershed.

MDE Response: The 303(d) Listing database that the Department developed this year has a geographic component to it in documenting the station names and locations for identified impairments. MDE has provided this information to the commenters for GIS plotting. It is a high priority of the Department to continue to improve upon this foundation and make waterbody impairment information more readily accessible to the public.

Comment 14: As we reviewed the draft listings, it became very apparent that successful water quality improvement would require more effective coordination across all levels of government and with the private sector. Unfortuntately, this need is expressed as only one brief paragraph on page 6-7 of the 2002 draft document.

MDE Response: Many improvements have been made this year by MDE in terms of public outreach for the draft 2002 Integrated 303(d) List that will facilitate that kind of

coordination and communication. However, the extensive and expanding public and local government involvement associated with TMDLs is where this aspect is most important and effective, and where MDE has concentrated its efforts.

Comment 15: In the 1996 listing, MDE listed water bodies as impaired by nutrients solely on the basis of the voluntary Chesapeake Bay Program goals and not on water quality standards. It remains unclear as to how these voluntary goals through the Maryland 10 Tributary Strategy basins will be meshed with the development and implementation of TMDLs at the 8-digit watershed level. There are also significant cross-jurisdictional issues for water bodies like the Anacostia. The District of Columbia is developing TMDLs for impairments in its waters on a different timetable and for different impairing substances than Maryland intends for its waters.

MDE Response: For the 2002 List, MDE revised its approach for assessing the Chesapeake Bay and removed the ten tributary strategy basins (priority listings 2-11 in the original submission) from the list. These are the only listings in 1996 that were listed solely on the basis of impairing a downstream water body without demonstrable impairments within the watersheds themselves. However, subwatersheds of the tributary strategy watersheds listed on the basis of assessments or monitoring data were retained on the 2002 list. For these watersheds, MDE will either complete a TMDL or a detailed water quality assessment demonstrating that water quality standards are being met.

At this time, MDE in consultation with DNR is developing a strategy and process for integrating tributary strategies and TMDLs for presentation to the Tributary Team leaders.

1.1.1 For District of Columbia waters specifically, MDE has been in consultation with District representatives to address interjurisdictional issues in regards to 303(d) listing and TMDL development. Department representatives have also been attending District TMDL technical coordination meetings for the Anacostia River and Rock Creek watersheds. The Department feels strongly that the productive dialogue generated thus far in these meetings will facilitate future interjurisdictional efforts on water quality issues.

Comment 16: In the current draft list, the State has included many impoundments because of fish tissue analyses showing elevated methylmercury. This methylmercury is attributed to an atmospheric source, presumably mainly from burning coal to generate electricity. Controlling all of these atmospheric sources requires Federal leadership across States, but also State commitment to assure that new power plant sitings or retrofits address this important air and water pollutant.

Many water body stressors currently lie outside of the Clean Water Act Regulatory framework. Atmospheric contributions to a waterbody may have both local and remote contributing sources, which vary with shifts in prevailing winds. Recent studies indicate that 32% of the nitrogen entering the Chesapeake Bay is from atmospheric sources.

Without stringent Clean Air standards and air monitoring equipment to monitor progress, TMDLs for pollutant loadings from atmospheric deposition are meaningless.

MDE Response: Part of the effort of developing a TMDL is an accurate assessment of the sources of the impairing substance. Indeed, in the case of methyl mercury MDE expects that most or a significant portion of the load is both external to the impaired watershed and to Maryland. However, a source assessment may also reveal that some part of the problem is local and can be corrected. In addition, the development of the TMDL brings more attention to the problem facilitating federal action, provides better outreach to the public to help them be aware of the problem, and provides a clean up target point for the time when federal Clean Air Action will be taken.

Comment 17: Another outstanding need is that of more resources for enforcement and for better coordination across enforcement programs. In the past, we have encountered problems in eliminating identified sources of impairments due to the potential for conflicts with existing State programs.

MDE Response: It is unclear from the comment what conflicts the commenter is perceiving. However, MDE is continuing to make progress in this direction. Recently, the department cooperated closely with Montgomery County on impairment issues related to permits for the Seneca Creek and Dalecarlia Waste Water Treatment Plants. The State will continue to build upon these kinds of developments and utilize the resources and knowledge of local governments and municipalities to have a more efficient and coordinated approach to interjurisdictional enforcement and compliance issues. Likewise, we encourage the commenter and other local jurisdictions to identify for the Department any perceived conflicts as they arise in order to facilitate this coordination.

Comment 18: Additional material should be provided to better describe the basis for the sediment and nutrient impairments for both tidal and nontidal waterbodies. Given the importance of nutrients and sediments to water quality and the frequency that the draft 2002 list cites nutrient and sediment impairments, there should be a subsection under "Listing Methodologies" that addresses nutrients and sediment explicitly.

Section 4, "Listing Methodologies," has subsections on biological assessment, DO in thermally stratified lakes, pH, bacteria, chemical contaminants, solids and sewage releases. There should be a comparable subsection on nutrients and sediment, which make up a large portion of the entries under both Impairment Category and Impairment Source.

MDE Response: MDE agrees that it would be helpful to have sediment and nutrient methodologies. Currently, these decisions are based on the narrative water quality standards and the best professional judgment used to interpret them. MDE and EPA are working on developing more objective numeric criteria. However, because both nutrients and sediments are highly variable, are a normal part of ecosystem processes, and don't

have universally acceptable endpoints such as mortality, development of listing methodologies is proving to be a challenge.

MDE anticipates estuarine standards for chlorophyll and water clarity by about 2003 in conjunction with a regional bay-wide effort, and is beginning work to develop freshwater criteria for nutrients. We anticipate that we may be able to develop sediment decision methodologies in conjunction with a refinement of the use of biocriteria. Also, the Department did include a solids methodology in the draft which covers turbidity problems as well as identifies the biological and associated habitat sampling as appropriate mechanisms for determining a sedimentation problem.

Comment 19: It would be helpful if the document included a discussion of the relation among the 303(d) list, TMDLs, the water quality section of (C2K) and Tributary Strategies.

MDE Response: MDE believes this to be outside of the scope of the 303(d) List. Certainly, the 303(d) list does mention that water bodies placed on the list may require the development of TMDLs. The Chesapeake 2000 Agreement (C2K) and the Tributary Strategies are voluntary environmental initiatives outside of the regulatory purview of the CWA. Subsequent to TMDL development, C2K and the Tributary Strategies can be factored into implementation plans.

Comment 20: It is not clear what is meant by "Nutrients" as an "Impairment Category". It would be clearer if Impairment Category (one of the column headings) described the nature of (rather than the cause of) the impairment. Thus impairment category could include, for example, "Low DO", "Diminished Clarity" or "Excessive Algal Growth", while "Nutrients" would be appropriate for the "Impairing Substance". Presumably, narrative criteria could be used as appropriate and substantiated in the absence of adopted numeric criteria. Similarly, it is not clear what is meant by "Sediments" as an Impairment Category. An Impairment Category caused by sediment might be "Diminished Clarity" or "Degraded Habitat".

It would be helpful to provide a clearer distinction between "Impairment Category" and "Impairing Substance" that appear as column headings on the draft 303(d) list. From the context, the relationship seems to one of "cause" (Impairing Substance) and "effect" (Impairment Category). If this interpretation is correct, and it seems to be consistent with the "Listing Methodologies" section of the report, it would be useful to revise the list to reflect this.

a) Where there is a nutrient-caused impairment, it would be clearer if the Impairment Category showed "Low DO" or "High Chlorophyll a" or whatever is the basis for the impairment.
b) Similarly, it would be clearer if sediment-caused impairments were identified as something along the lines of a "Clarity" impairment or "Degraded Habitat" impairment.

c) It would seem that "Toxicity" would be a better Impairment Category than "Metals" while the individual metals (e.g., methylmercury) are appropriate as the Impairing Substances.
d) "Biological" seems to be appropriate for Impairment Category, but not as the Impairing Substance, which is generally unknown.

MDE Response: The "impairment category" and the "impairing substance" fields are used in the database to allow sorting and querying from the general to the specific impairment, respectively. For example, if a stakeholder wants to know all of the waterbodies in Maryland that are impaired by metals, MDE could perform a query in the database on the "impairment category" field and ask for all of the records where "impairment category" equals "metals". However, if the same individual wanted to know what water bodies in the State were impaired specifically by mercury, or any other species of metal, MDE could perform a query in the "impairing substance" field and ask for all of the records where "impairing substance" equals "mercury". So the distinction between the two fields is that of a category vs a specific impairing substance and allows MDE to perform customized queries by specificity of impairment.

Having said this, where the Department received specific comments and had additional clarifying data available, the "impairing substance" value was revised to more specifically target or identify the probable cause of impairment. Future lists will continue to implement the suggested framework into the list. Rather than trying to retrofit older listings, MDE will concentrate on being more specific with the "impairment category" and "impairing substance" fields for future listings where data are available to make these distinctions.

Comment 21: The listing methodology section should also describe the conditions for delisting a listed waterbody.

MDE Response: The regulations implementing CWA section 303 are currently being revised by EPA, and one of the major issues to be addressed is the de-listing process. The 2002 Integrated 303(d) List cites EPA's good cause provision for de-listing. Upon request by the Regional Administrator, each State must demonstrate good cause for not including a water or waters on the list. Good cause includes, but is not limited to: "more recent or accurate data; more sophisticated water quality modeling; flaws in the original analysis that led to the water being listed in the categories in §130.7(b)(5); or changes in conditions, e.g., new control equipment, or elimination of discharges."

Comment 22: It is not clear why numerous water bodies that were on the 1996/1998 list for nutrients "with an asterisk" are retained on the draft 2002 list.

MDE Response: Maryland added these waters to the 1996 List at the request of EPA. Since it was known at the time that the mainstem Chesapeake Bay was impaired for nutrients, EPA requested that Maryland list all of the tributaries leading into the Bay because they made some contribution to the overall Bay impairment. Although some assessment work on these basins had been presented in the State's 305(b) Report,

Maryland had insufficient water quality data to make a clear impairment determination. Thus MDE made the compromise with EPA that the tributaries would be added to the 303(d) List with an asterisk denoting the uncertainty about the listing. However, it was also noted that these listings were anticipated to be mitigated by the Tributary Strategies implementation.

Now that these waters are on the list, the burden of proof falls upon the State to provide data under EPA's "good cause" provision in order to de-list. If anyone has data that could be used to de-list the nutrient asterisk waterbodies, the department will consider these data for use in de-listing. MDE is waiting for the Bay Program's nutrient criteria which may give us a numerical standard that the State can use to both list and de-list tidal waters.

Comment 23: It is noteworthy that five of the six tidal and non-tidal, eight-digit mainstem Potomac River segments are listed as impaired for nutrients and sediment, while the sixth, Potomac River-Frederick County (02140301) is not. What distinguishes the latter from the others, especially from the other two nontidal segments, Potomac River-Montgomery County (02140202) and Potomac River-Washington County (02140501)?

MDE Response: When EPA asked Maryland to list all waters draining to Chesapeake Bay for nutrients, the State must have inadvertently neglected to list this basin, not because the water quality was substantially different in that segment of the Potomac. In absence of any current data supporting these impairments, no listing will be made for this reach.

Comment 24: It is noteworthy that three eight-digit waterbodies in the Potomac Watershed were listed as impaired for nutrients (with an asterisk) in the 1996 list and have been delisted in the draft 2002 list. They are Conococheague Creek (02140504), George's Creek (02141004) and the Savage River (02141006). The note for the Conococheague states: "De-listed as per May-October 1996-1999 MDE intensive survey data that showed no nutrient impairment." Similar notes (slightly different timeframe) are provided for the other two.

In a document prepared by MDE, entitled "Water Quality Analysis of Eutrophication of the Savage River, Garrett County, Maryland," the conclusion section reads:

> "The data presented above suggest that there is no excessive algal growth in the Savage River, as indicated by low chlorophyll *a*. Similarly, dissolved oxygen concentrations meet standards. Based on the synoptic survey conducted during 1997, water quality data indicate the Savage River has no Eutrophication water quality problems. Baring any contradictory future data, this information provides sufficient justification to revise Maryland's 303(d) list to remove nutrients as an impairing substance in relation to the Savage River."

This document was submitted to EPA on December 28, 2000. EPA concurrence was received on April 18, 2001. This suggests that MDE and EPA have a quantitative basis for deciding what constitutes a nutrient impairment in a non-tidal stream in Maryland. If so, this should be included in the "Listing Methodology" section.

MDE Response: Although no State or national standard exists for nutrients, a weight-of-evidence approach (i.e., multiple nutrient related impairments identified in the same basin, like low dissolved oxygen, numerous documented algal bloom problems, high pH, high biological oxygen demand, etc.) and/or best professional judgment has been used by the State and federal government to list/de-list water bodies on the 303(d) List. EPA's "good cause" provision, cited earlier, is the regulatory mechanism that allows this weight-of-evidence approach to be used for listing/de-listing decisions, although it does not outline any formal numerical or quantitative measures by which these decisions are made.

Even in the absence of accepted nutrient criteria, sufficient nutrient data in a given water body could provide adequate resolution and weight-of-evidence to justify de-listing a watershed under this provision. The State is currently working on formalizing a more numerical framework for nutrient listings and will be developing a nutrient listing methodology for stakeholder review in the not too distant future.

Comment 25: The column heading "Source of Impairment" should be more clearly defined. Sometimes, regulatory agencies treat urban stormwater subject to an MS4 NPDES permit, as a point source. From the discussion at one of the public meetings, it is clear that urban stormwater, whether or not subject to an MS4 permit, is considered a nonpoint source. This should be defined for the sake of clarity. The classification of other permitted sources, e.g., Combined Animal Feeding Operations (CAFOs) should also be defined.

MDE Response: MDE will make an effort in future lists to determine exact impairments based on available data. Where stormwater is identified clearly as the source of impairment in the 303(d) listed water bodies, MDE will rely on existing and well established State and federal regulatory programs to control the urban component of these discharges.

Comment 26: It would be helpful to the reader if the document included a discussion of the relation of the draft 2002 303(d) list to: (1) the 1998 "TMDL Memorandum of Understanding" between Maryland and EPA Region 3, including the schedule for TMDL preparation; and (2) the Tributary Strategy process agreed to in C2K. Specifically:

a) How would TMDLs for impairments with multistate sources, such as any that would be prepared for mainstem Potomac impairments, be addressed?
b) Would such TMDLs include allocations of loads to: (1) each contributing state and (2) each contributing sector (i.e., wastewater, urban stormwater, agricultural runoff and air deposition)?
c) It would also be helpful to include the 1998 MDE-EPA MOU as an appendix to the final 303(d) list.

MDE Response: The Department feels that the 303(d) List is not the appropriate forum for these discussions.

Comment 27: The nutrient "Source of Impairment" for several waterbodies does not include "Point Source" where there are one or more upstream wastewater treatment plants. These include:

Potomac River-Lower Tidal (02140101);
Potomac River-Middle Tidal (02140102);
Mattawoman Creek (02140111);
Potomac River Upper Tidal (02140201);
Piscataway Creek (02140203);
Seneca Creek (02140208); and
Lower Monocacy River (02140302).

Was there a reason for this omission?

MDE Response: A point source component has been added to these listings. However, the Department recognizes that these point sources, due to current application of permit controls and best available water treatment technologies, may not be making a significant contribution to the nutrient impairment in these watersheds. The sources identified in the 303(d) listings are used for planning purposes only.

Comment 28: Rock Creek (02140206) is erroneously listed a "Tidal" when addressing the nutrient and sediment impairments.

MDE Response: Corrected.

Comment 29: The Anacostia River (02140205) is listed as "Tidal" for the nutrient and sediment listing. Only a very small portion of the Anacostia River and its tributaries in Maryland are tidal. Is the listing intended to be limited to the tidal portions of the Anacostia watershed?

MDE Response: No, the listing applies to the whole 8-digit Anacostia watershed that lies within Maryland's borders, including the tributaries. A non-tidal listing has been added to the list, however, to more clearly define the impairment.

Comment 30: The "Sediment" listing for Potomac River-Washington County (02140501) indicates a "Point" source of impairment. Presumably this is a typo.

MDE Response: Corrected.

Comment 31: Is there a reason why the Savage River was delisted for sediment?

MDE Response: This was in error – corrected.

Comment 32: It would be helpful if more explanation could be provided for narrative water quality criteria (WQC). How many of the 566 impairments are based on a narrative WQC? Would it be possible to provide an additional sorting based on the narrative WQCs? MDE has stated that they will support narrative WQC listings with quantitatively interpreted information (p4-22, Section 4.5.1, 2nd paragraph of the 303). Please provide this interpretation information in the 303d listing under the "data result" column.

MDE Response: In part, because past decisions have not been well documented, providing such documentation is difficult. Some of the listings were based on "assessment" decisions, in accord with prior EPA guidance. In this type of assessment, States were encouraged to list waters that were likely to be impaired based on factors such as land use and the assessor's experience. MDE no longer makes assessment-based decisions, but is still bound by past listings. Under columns "Data Source" and "Data Result" we have begun providing more of the specific information on which the impairment decision was based, and plan to enhance and expand that approach in the future.

Comment 33: Could MDE provide (either in an appendix or table) the COMAR numeric WQC thresholds for the impairment substances included in the 2002 303d list?

MDE Response: COMAR references and thresholds are included in the listing methodologies. The URL to COMAR online is: https://constmail.gov.state.md.us/comar/dsd_web/default.htm.

Comment 34: It is clearly stated how a watershed is listed as a category 5 listing using a numeric WQC value that has been exceeded. Could MDE include the percentage of exceedance for each numeric WQC category 5 listing as well as the average value of the exceeding WQC (e.g., greater than YY% of the samples were above the numerical limit with an average value of X mg/L for this failed WQC) in the "Notes" and "Data Results" column?

MDE Response: For future 303(d) Lists, MDE will make an effort to improve/expand upon the "data results" and "notes" fields in order to provide information of this nature. MDE and DNR have been working together closely to develop data summaries, including minimum and maximum values, mean, median, standard deviation, number of observations from the total which exceeded criteria, etc. Although the 303(d) list is not meant to be a data report and MDE will provide only sufficient data to clarify the basis for the listing, the Department can provide raw data to interested stakeholders upon request.

Comment 35: For all attainment status 5 biological impairments, an unknown source of impairment is listed. General Comment: Would it not be more appropriate to list these as either attainment status 4b or 4c and until the actual impairing substance is identified? This comment relates to section 2.1.3's statement that if the impairing substance is not

known- a TMDL is "neither appropriate nor required." Also, could a general explanation be given for the biological impairments that received a medium priority ranking?

MDE Response: The reason the biological impairments are included on part 5 of the list is because they are failing to support aquatic life. As a result, these waters are not meeting the narrative water quality criteria established in Maryland regulation and are thus impaired. The fact that the source of the impairment is not known does not imply that there is no impairing substance. The first step in the preparation of a TMDL for biological impairments will be the determination of whether there is an impairing substance and what it is. If an impairing substance cannot be identified and if there is substantial evidence to support habitat degradation, for example, as the cause of the impairment, then a TMDL will not be needed.

In many cases, in response to other comments the impairing substance has been clarified or more precisely defined in the final report where sufficient information was available.

Comment 36: How much emphasis is going to be placed on the development of biological TMDLs where a watershed is listed for another TMDL impairment? It appears that the addition of 166 of the 178 biological impairments (attainment category 5) greatly increases the level of effort and responsibility to the water body custodian(s). It would seem logical that the biological impairments would remain as low priorities if it is agreed that the other impairment once addressed should alleviate and restore the biological integrity of the water body.

MDE Response: As also stated in § 2.1.3**,** when waters are impaired for some parameter in addition to biology, the State will assume that the other impairment is the cause of degradation in the biological community. In these cases, the biological impairment will be given a low priority for TMDL development with the assumption that once the other impairment is addressed, the biological impairment will be rectified as well. In cases where no other pollutant has been identified outside of the biological impairment, a medium priority will be given in order to expedite follow-up monitoring and conduct stressor identification.

Comment 37: Could the subbasins be sorted in ascending order within a given 8-digit watershed? There appears to be possibly some duplicate subbasin listings (i.e., same impairment, same 12-digit number, same subbasin name, and Data Result) throughout the data sorts. Please confirm or explain the possible reason for a duplicate record if this comment is incorrect and the records are unique and independent.

MDE Response: Often, there is more than one sampling station in a 12-digit basin having the same IBI result so that it would appear to have duplicate entries and data results. However, the sites represent different sampling stations and thus a unique spatial and temporal scale in the same watershed.

Comment 38: Page 2-5, 2nd Paragraph states, "…this draft doesn't fully incorporate all the most recent information or the revised methodologies for biocriteria." Comment:

Shouldn't this lack of information preclude the listing of many of the biological impairments until the more definitive information and methodology is included in the 303d listing?

MDE Response: Based on reviewers' comments and the Department's subsequent review of available biological data, the Department recognizes a need to further analyze the biocriteria data prior to its next scheduled publication of the 303(d) List. It is anticipated that this re-analysis will result in more effective implementation of the listing methodology for biocriteria included in this publication and may result in some stream segments qualifying for different attainment status categorization in the list. This recalculation will result in a more accurate presentation of water quality status for biologically assessed waters. This reanalysis is not of such a nature or magnitude as to require a full water quality assessment for the effected water bodies.

Comment 39: Please include the mean MPN/100 ml average in the "data result" column for **all** fecal coliform listings. Currently, it is not included for many of these impairments.

MDE Response: This information was included for all of the newly identified bacterial impairments in the 2002 Integrated List. Any 1996 and 1998 listings were done prior to the new 303(d) process and the MPN/100 ml values used for listing are not readily available.

Comment 40: When will the next MBSS report be completed and were any completed post 1997?

MDE Response: Another round of MBSS sampling was begun in 2000. Originally, sampling for the MBSS program was conducted over a three-year period (i.e., 1995-1997) in order to cover the entire State under a stratified random sampling design. However, even after all of the sampling has been completed additional time will be needed to conduct the analyses. Hopefully, this next round, including both the sampling and analyses, will have been completed prior to publishing the next Integrated List.

Comment 41: Could greater explanation be given to all non-MDE data used in this 303d listing? For example, a biological impairment listing referencing the Montgomery County DEP, 1998 data source and a stream biological condition = Poor or Fair may not be well understood by parties outside of MDE and Montgomery County DEP.

MDE Response: Due to the relatively large volume of non-State data that are used in developing the 303(d) List, it would not be expeditious for MDE to include explanations of all of these data sources. However, the new 303(d) List does include a field entitled "data source" which provides a citation for the data used in making that listing decision. This was done to provide interested stakeholders with enough information whereby they could personally follow up on a data source used for listing and independently evaluate methods, results, and conclusions contained therein.

Comment 42: How many of the 566 impairments relied on non-DNR or non-MDE data to assign an attainment status of 5?

MDE Response: This is a difficult question to answer since the degree of data source tracking used for the 2002 listings was not used for the 1996 and 1998 listings. In other words, for the 1996 and 1998 listings, we only referred back to the 305(b) assessed impairments and did not document the individual data sets used to make that determination. However, all data provided to the State and of sufficient quality, regardless of whether the State, local governments or local watershed groups provide that information, can be used for 303(d) Listing determinations.

Comment 43: The new listing methodology for Sewage Releases is redundant with the bacteriological listing methodology. Sewage releases require technological fixes, i.e. repair of the sanitary sewer system and as such do not belong on the 303(d) list. If there is impairment due either to bacteria or organic enrichment, then the bacteria or dissolved oxygen criteria would apply. The Sewage Releases methodology should not be used. If the database indicates there are multiple releases, then these can be addressed through working with the local authority to get the problem fixed.

MDE Response: Since the State does not have the time or resources to collect bacterial data in all State waters, large and chronic sewerage overflows can serve as an indicator of impairment in the absence of water quality data. In the case of the CSO/SSO issue, the Department has tried to target the most serious sewerage problems for listing. If a given jurisdiction is already under a consent order or has repairs budgeted in a water and sewer plan, the Department can forego listing since there is another mechanism in place to rectify the problem. Otherwise, 303(d) listing would provide an accounting system whereby the State could track and follow up on the most serious violations and have a regulatory mechanism in place to fix the problem in the event that a cooperative agreements or consent orders are not forthcoming.

Comment 44: The report should include a map of 12-digit watersheds with basin number labels since the report presents information for some 12-digit watersheds. The 12-digit watershed maps could be organized by 8-digit watersheds and/or by counties.

MDE Response: Corrected. MDE included an overlay map showing which 12-digit watersheds fall within an 8-digit watershed. However, the basin code designations are not included because of a lack of space. One thing to keep in mind that may help you in this regard is that all 12-digit watersheds in a given 8-digit basin have those same 8-digits as their prefix. For example, the 12-digit basin 02130905<u>1044</u> is in the 8-digit basin 02130905.

Comment 45: The 1996 listing on page 59 for nutrients and sediments in the Little Patuxent River gives a subbasin as Dorsey Run east of Rt 2 and 3, respectively. Based on the original 1996 listing, it seems these should both specify east of Rt 1.

MDE Response: Corrected.

Comment 46: The Commenters object to MDE's use of Individual Control Strategies ("ICSs") as a substitute for TMDLs. ICSs do not provide the level of protection required by CWA section 303(d). ICSs do not look at the waterbody as whole, as TMDLs do, to determine the deleterious effects from multiple dischargers. Thus, ICSs cannot remedy deteriorated water quality that is the result of cumulative discharges.

Moreover, MDE's record with ICSs provides further demonstration of their inadequacy. The Baltimore Harbor has been identified as impaired since 1996. MDE alleges that ICSs have been developed for the Harbor. Further delay in achieving water quality in Baltimore Harbor, one of the nation's premier waterbodies, is simply unacceptable.

MDE Response: The Department's position is that since the ICSs are currently in effect or in the process of implementation, this serves as an effective remedy to the water quality impairment. As such, the ICS impairments are being appropriately listed on Part-4b of the list (see §2.1.1). The Department will actively monitor to confirm the effectiveness of full ICS implementation. If water quality standards for the ICS substances are not met within a reasonable period after full implementation, these waters will be moved to Part-5 of the List.

Comment 47: The Commenters want MDE to propose and follow a time table with regard to water sampling to ensure that every possible effort is made to test the water quality of every watershed. To assess the biological quality of Maryland waters, MDE states that "[w]here at least 10 sites have been sampled in a watershed (8-digit), watershed-specific confidence levels will be calculated" and "[w]here fewer sites have been sampled, subwater-sheds (12-digit) will be the evaluation unit." MDE fails to note a time frame or expectation for this sampling of watersheds. Thus, the public cannot be sure that MDE will make every possible attempt to sample at least 10 sites within the two years between each 303(d) list. It is vital to the accuracy and completeness of the 303(d) list that MDE set aggressive goals for itself and follow them in order to use all available data to create its 303(d) list.

MDE Response: The State's sampling and listing protocols seek to make the most efficient and environmentally responsible use of available resources. With respect to biological samples, the State has decided to list at the smaller 12-digit geographical scale than the typical 8-digit watershed planning unit. Even in the event that 10 samples were taken in a 12-digit watershed, there is a marginal likelihood that all of them would fail and thus necessitate listing at the 8-digit scale. Furthermore, the State's approach to biological sampling is that of a stratified, random sampling design. This approach

ensures that adequate samples are taken over a given cycle to provide a statewide assessment of non-tidal waters.

Once a biological impairment has been identified in a watershed where no other impairment has previously been identified, the State will then prioritize these sites for follow-up assessment and stressor identification. During this process, additional samples will be taken and a fuller assessment of those waters will be conducted to provide better spatial resolution of the impairment status.

Comment 48: The Commenters ask for a more specific explanation of how data that is incomplete or unable to be used for 8-digit watersheds will be utilized in analyzing 12-digit subwatersheds. MDE states that if there is not data from at least 10 sites within an 8-digit watershed for fish IBI scores, but there is analysis from 10 benthic IBI scores, the fish IBI scores will be "incorporated into 12-digit analysis to avoid losing information about possible impairments."

The Commenters understand that due to the fact that there is not data from both the benthic and fish IBI scores that only the benthic IBI scores will be calculated into 8-digit analysis, but do not understand how the fish IBI scores will be "incorporated" into 12-digit analysis. In other words, what will the process be to incorporate IBI data gained from 8-digit watersheds into 12-digit sub-watershed analysis? The Commenters are concerned that such valuable information will be lost if the process is not specifically detailed.

MDE Response: Essentially what this means is that all biological data collected at the 12-digit scale will be analyzed to provide the most complete and accurate watershed assessment regardless of whether or not that information justifies listing at the 8-digit level.

Comment 49: MDE must cite and or explain the scientific conclusions for the exceptions to listing certain waters for biological impairment. This section fails to explain how MDE determined which exceptions the agency would apply to biological data. Are the listed exceptions based on EPA guidance or commonly accepted scientific standards? There are no citations or explanations following any of the seven exceptions to note their origin. Section 303(d) and EPA's guidance is clear, if a water is biologically impaired it needs to be identified as impaired on the 2002 List. Any deviations or exceptions have to be clearly explained and based on scientifically acceptable standards. Therefore, without further reference or justification for these exceptions, the Commenters find them unacceptable and waters that fall into them must be listed.

MDE Response: The exceptions listed in §4.1.6 of the 2002 List are made for those water bodies where the Maryland Biological Stream Survey (MBSS) methodology does not apply. The metrics that were developed for the MBSS program to evaluate water body condition are derived from an established reference condition that is based upon the biological organisms identified in the most pristine waters of the State. Some of the more unique stream systems, like blackwater or limestone streams, have biological

communities that, albeit quite healthy, may be different from the reference communities established by the MBSS program. In these cases MBSS may not be the appropriate tool for determining impairment status. The other exceptions listed in this section are the same exceptions cited by the MBSS program as not being suitable for accurate evaluation. In summary, these exceptions denote anomalous or unique natural conditions that do not lend themselves to accurate assessment using MBSS.

Comment 50: The Commenters suggest that MDE provide an example of what is "good quality biocriteria that can be fully integrated with MBSS data but is not MBSS data." Perhaps MDE could present an example of a current waterbody listing in the 2002 List that was acquired from Tier I data. The difference between acceptable and non-acceptable non-MBSS data is unclear.

Further, to better illustrate the difference between Tiers 1 and 2, MDE should make available a chart or a graph demonstrating a comparison between the two types of non-MBSS data. The differences between acceptable and non-acceptable non-MBSS data are not clear.

MDE Response: One example of good quality, non-MBSS biocriteria that was used in the 2002 List were Montgomery County data. MBSS identifies aquatic organisms down to the genus level and thus some other biological sampling programs that do not identify organisms down to that level of specificity may not be comparable to MBSS. Since biological sampling programs used across the State are highly variable, each biological monitoring program has to be compared with MBSS on a case-by-case basis to make a comparability determination. However, the State is currently working with other counties (i.e., Baltimore County) to perform such comparability analyses. Additionally, the State Department of Natural Resources holds annual trainings in MBSS protocols and taxonomic identifications to encourage consistency with the MBSS program.

Comment 51: Lakes that are determined to be impaired on the 1997 Lake Report must be listed on the 2002 List. In this section, MDE adopts an "interim interpretation of the dissolved oxygen criteria for lakes exhibiting seasonal thermal stratification" but fails to explain why it is only an interim interpretation and how or when a permanent standard will be developed. MDE uses the 1997 Lake Report analysis to determine the trophic status for the interim interpretation.

There were 7 lakes at issue in a lawsuit brought against the Environmental Protection Agency ("EPA") by Commenters concerning the 1996 and 1998 303(d) Lists. MDE claimed that 6 of the 7 lakes were listed on the 303(d) List. If MDE is continuing to use the information provided by the 1997 Lake Report, then those lakes should still be on Part-5 of the 2002 List. However, a review of Part 5 shows that these six lakes are not included:

1. Bishopville Pond – This pond is not specifically listed on 2002 List.

MDE Response: Since these data are older than the maximum of six years, they may not be reflective of current water quality conditions. Accordingly, Bishopville Pond is listed under part-3 of the list as having insufficient data to determine water body impairment.

2. Duckett Reservoir – The Duckett Reservoir is not specifically listed on the 2002 List.

MDE Response: Already listed under Rocky Gorge Dam

3. Conowingo Pool – The Conowingo Pool is not specifically listed for DO on the 2002 List. Its basin code 02120204, Conowingo Dam Susquehanna River, is listed on the 2002 List, but not for DO.

MDE Response: Since these data are older than the maximum of six years, they may not be reflective of current water quality conditions. Accordingly, Conowingo Pool is listed under part-3 of the list as having insufficient data to determine water body impairment.

4. Tridelphia Reservoir – The Tridelphia Reservoir is listed as a Subbasin for the Brighton Dam on the 2002 List. However, the impairment is biological, sediments and nutrients, not DO.

MDE Response: Since these data are older than the maximum of six years, they may not be reflective of current water quality conditions. Accordingly, Tridelphia Reservoir is listed under part-3 of the list as having insufficient data to determine water body impairment.

5. Edgewater Village Lake – The Edgewater Village Lake is not specifically listed in the 2002 List.

MDE Response: Already listed under Lower Winters Run.

6. Piney Run Reservoir – The Piney Run Reservoir is not specifically listed on the 2002 List.

MDE Response: Already listed under South Branch Patapsco River 02130908.

Comment 52: The Chesapeake Bay must be listed on the 2002 List. MDE claims that the "upper Chesapeake Bay is restricted to shellfish harvesting for administrative reasons and is not listed." MDE fails to state what those administrative reasons are and how they conflict with MDE's regulations that state: "those areas restricted to shellfish harvesting because they do not meet State requirements for Use II waters or do not meet the strict requirements under the NSSP are listed." According to MDE's own methodology, the upper Chesapeake Bay is restricted to shellfish harvesting, and must be listed.

MDE Response: The commenter confuses areas in which shellfish harvesting is restricted because they do not meet water quality standards or the National Shellfish

Sanitation Program with areas that are restricted for purely administrative reasons. As stated in the listing methodology §4.4.2(1B), "The upper Chesapeake Bay is designated as Use II waters; however there is insufficient shellfish resource for harvesting due to the fresh water input from the Susquehanna River. Since there are no oysters or clams to harvest, MDE does not spend valuable staff resources to complete shoreline surveys. To remain in compliance with the NSSP, MDE must therefore classify the area as restricted." In other words, shellfish harvesting is restricted in this area, not because there is any evidence of an impairment**,** but because it would be a waste of resources to test an area that, due to low salinity, would not support a viable shellfish population irrespective of water quality.

Comment 53: As part of MDE's self-professed goals of efficiency, accessibility and consistency, the Commenters request that all impaired waters be specifically listed on the 2002 List. In the same lawsuit brought by Commenters mentioned above in §4.2.3, there was also an issue with beaches not properly listed as being impaired by fecal coliform. The Snowy Creek was one such concern. Although listed for fecal coliform on the 2002 List under the basin code 05020201 (Youghiogheny River), Snowy Creek is not listed as a subbasin. The confusion and possibly misunderstanding may be minimized here (and many other places) by MDE creating a table or chart that includes all of the subbasin waters within a basin. This is especially relevant where the smaller waterbody has been listed on a previous 303(d) list and then is not "included" on the 2002 List. It is essential to Maryland's water quality that all impaired waters be included on the 303(d) list and that there is no question as to whether or not a waterbody is actually on the list.

MDE Response: Although not specifically listed as a subbasin, Snowy Creek is included in the Youghiogheny River fecal coliform impairment. During TMDL development, sources of fecal coliform to the Youghiogheny will be monitored for water quality standards compliance. These additional data collected prior to TMDL development will give State water quality managers better spatial characterization of the pollution sources in a watershed and will help to define TMDL activities and goals. The EPA guidance providing a single integrated list of all of the State's waters was released as this 2002 list was already in preparation. Future lists will probably list all water bodies in some part of the list.

Comment 54: The Commenters ask for greater detail and explanation in this section concerning the interpretation and ultimate assessment of bacteriological water quality conditions. To better understand and analyze Maryland's bacteriological water quality, MDE states that the fecal coliform data is interpreted in conjunction with information from a sanitary survey. Recognizing that MDE explains sanitary surveys and their purpose in §4.4.4, it remains perplexing as to how the two types of data are analyzed and reconciled. Therefore, MDE should inform the public as to how they are going to proceed with and analyze fecal coliform data with regard to the different types of data.

MDE Response: The sanitary survey gives information on sources of fecal coliform such as failing septic systems, farm animals with direct access to streams, direct pipes (no septic system) and whether or not an area is served by public or private sewer.

Bacteriological data alone do not suggest what elevated levels mean or what the source may be. Because of the inherent uncertainty of fecal coliform values and the limited amount of data from many areas across the State, a sanitary survey is an important tool in evaluating the data. Public health concerns due to elevated bacteria levels are far greater when the source is from humans compared to wildlife or decaying plant matter which can also be expressed in elevated bacteria counts. For example, interpreting elevated fecal coliform levels in a stream that is surrounded by forested area with no anthropogenic sources nearby would be different than evaluating elevated fecal coliform counts in a farming community where cows have direct access to a stream or the fields in which they graze slope towards the stream.

Comment 55: The Commenters are concerned that MDE is not setting an aggressive standard for collecting chemical data. For water column data, EPA guidance provides that if a minimum of ten samples are taken over a three-year period and 10% of the samples do not support the use, then the water should be identified as impaired. Ten samples over a three-year period is not an aggressive standard to meet. If MDE refuses to establish a more hard line standard for sampling waters for chemical impairments, then MDE must make every effort to gather at least ten samples in a three-year period. Although the Commenters encourage that a more stringent sampling standard be implemented, at the very least MDE should be expected to gather at least 10 samples in a three-year period.

MDE Response: Existing interagency water quality monitoring programs are designed to maximize and prioritize the assessment of State surface waters within the constraints of available funding. MDE focuses its share of limited monitoring resources on the five year TMDL monitoring plan. High priority sites are singled out as needed for intensive monitoring within MDE resource constraints.

Comment 56: The Commenters believe MDE has made an editing mistake in this section. This comment most likely only notes an editing mistake because MDE must have meant "EPA ESGs" instead of "EPA SQCs" in the column headings of Table 4. §4.5.4.2 Sediment Chemistry Data tells us that there are no final EPA SQC's; there are only EPA ESG's (equilibrium sediment guidelines) rather than criteria. The Commenters ask for the change to be made.

MDE Response: Corrected.

Comment 57: MDE must explain in detail what is meant by new regulations that will deal with all estuaries, including the Chesapeake Bay. In defining impoundments to be assessed for sediment impairments and water quality, MDE states that estuaries, including the Chesapeake Bay, will be dealt with under new regulations.

The Commenters submit that the following questions concerning these new regulations be answered as testing for water clarity and sediment is essential to the development of a complete 303(d) list. With regard to the new regulations that will cover the Chesapeake Bay, what are they? Will they apply to all estuaries? Who is promulgating them? When

will they be enacted? Why are these regulations in place of, instead of in addition to, including the Chesapeake Bay on Maryland's 2002 List? It is not sufficient for MDE to merely suggest that sometime in the future there will be regulations in place to manage estuaries, including the Chesapeake Bay and their possible impairment by solids.

MDE Response: A team of bay scientists is developing the Chesapeake Bay nutrient criteria. MDE anticipates that the specifics of the developing methodologies will be available by this summer. EPA holds the regulatory authority to implement a bay TMDL by 2010 if reductions are not accomplished. If the Bay Program holds to its schedule, MDE would plan to promulgate new designated uses and the supporting numeric criteria for chlorophyll, dissolved oxygen and water clarity by the end of 2003. It is not clear at this time, since the criteria guidelines are still under development, whether they will be applicable to the Coastal Bays.

Comment 58: The Commenters disagree that all impaired waters from previous 303(d) lists have been accurately represented in the 2002 List. MDE states that "both the 1996 and 1998 303(d) lists are included in the current list so that stakeholders can easily identify all impairments that been identified in a given basin." The Commenters have, however, found some discrepancies and situations where it is anything but easy to identify all impairments.

For the 1998 303(d) List:

1. Monie Bay is listed on the 1998 303(d) List under the basin code 02130202. However, that basin code is listed as the Lower Pocomoke River on the 2002 List while Monie Bay is listed as basin code 02130302 on the 2002 List. While this change is noted on Table 6, it would be more helpful if it were also noted on the Draft itself as a change.

MDE Response: Corrected in section 5.4.6, last paragraph.

2. Patuxent Mainstem (to Ferry Landing) is listed on the 1998 303(d) List under the basin code 02131101 for Fecal Coliform, along with eight other specific listings for the Patuxent River. However, it is neither specifically noted on the 2002 List, nor is it listed as already having a TMDL on Part 4a of the 2002 List.

MDE Response: Corrected.

3. Piscataway Creek is listed on the 1998 303(d) List under the basin code 02140103 for nutrients. However, that basin code is listed as St. Mary's River on the 2002 List.

MDE Response: This correction was mentioned in section 5.4.6 of the Draft List, last paragraph.

4. For the 1996 303(d) List: Loch Raven Reservoir is listed on the 1996 303(d) List under the basin code 02130805 for nutrients and heavy metals and has identified

sources of point, NPS, and natural. On the 2002 List, point source is not listed. Please explain this change.

MDE Response: Corrected.

Manokin River is listed on the 1996 303(d) List under the basin code 02130208 for the nutrients, fecal coliform and sediment. It is not included on the 2002 List for nutrients.

MDE Response: The Manokin is still listed for nutrients, albeit as an attainment status 4a since a TMDL was submitted and approved by EPA.

5. The Back Creek C & D Canal near MD/DE line is listed under the basin code 02130604 on the 1996 303(d) List for nutrients, sediment, arsenic, cadmium and silver. It is not included on the 2002 List for silver or cadmium listings.

MDE Response: These listings have still been retained under the Back Creek basin, basin code 02130604. The C&D canal has been listed as a source for these impairments.

6. Upper North Branch of Potomac River is listed under the basin code 02141005 on the 1996 303(d) List for nutrients, sediment, sulfates and metals. It is included on the 2002 List for sulfates.

MDE Response: To be more descriptive of the impairment, the impairment category for this listing was changed to "pH" and the impairing substance was changed to "Low pH – Acid Mine Drainage".

Comment 59: Although the Commenters find the addition of Part 6 of the 2002 List helpful, it is not completely accurate. These listings were duplicate listings on previous 303(d) lists and, therefore, one listing has been de-listed under Part 6 of the 2002 List. However, there are two inaccurate de-listings in this category that need to be addressed:

1. Loch Raven Reservoir – According to page 5-10, this watershed should have been de-listed for priority "15" for nutrients and retained for "low" priority for nutrients on Part 5 of the 2002 List. Instead, on Part 5 the priority of "15" is maintained. This needs to be changed to "low."

MDE Response: Corrected.

2. Wills Creek – According to page 5-10, this watershed shed should have been de-listed for priority "22" for cyanide and retained for "low" priority for cyanide on Part 5 of the 2002 List. Instead, it was de-listed for a priority of "23" on Part 6 of the 2002 List.

MDE Response: Corrected.

Comment 60: While Table 7 is informative, the Commenters do not believe that it is complete. As discussed above, there are several instances where waters listed as a certain basin name on the 305(b) report or even on the 1996 or 1998 303(d) list do not match up with the current listing. As a self-proclaimed goal of MDE to achieve consistency and accessibility in its' 2002 List, there should be a master list of all existing waters to assure all interested parties that no water is forgotten. The Commenters suggest this confusion may be alleviated by creating a master list of all basin names and basin codes and the subbasins and subbasin codes that are included within each basin to ensure a complete list has been prepared.

MDE Response: The master names adopted for the 8-digt basins are included in table 6. Also, please refer to Table 7 in the Draft List to see the changes made to the basin names used in prior lists and the new standardized names adopted in the 2002 List. For the 12-digit basins there are no standardized names.

Comment 61: The Commenters object to a five-year schedule for TMDL development and completion for waters on the 1998 and 2002 lists and further to the so-called long-term schedule for the 1996 list. MDE states that a five-year schedule is in place for the 1998 and 2002 portions of the 303(d) list, but only that a long-term schedule is in place for the 1996 portion of the list. What is meant by a long-term schedule being established for the 1996 portion of the 303(d) list? The purpose of creating a 303(d) list of impaired waters is to develop TMDLs for those waters to improve their water quality. Even a five-year schedule of completion for TMDLs is too long and an indefinite schedule for waters identified in 1996 is outrageous.

MDE Response: Current EPA guidance calls for TMDLs to be completed 8 –13 years after listing. MDE will meet this schedule and improve on it where possible. In accord with existing regulations, MDE has identified those TMDLs targeted for TMDL development within the next two years.

Comment 62: Five years is unacceptable for the completion of TMDLs for toxic waters. The Commenters take issue with the five-year period of development of TMDLs for waters identified as impaired by toxics. These waters have been designated as having a high priority due to the health risk of toxics and the rationale that TMDLs cannot be developed due to "complexities of TMDL methodology development" is not reasonable or consistent with past explanations. In the past, MDE has argued that ICSs will be expeditiously completed for toxic waters. The Commenters do not understand why it will take five years to develop TMDLs for toxically impaired waters.

MDE Response: Toxic impairments present some of the greatest technical and policy challenges to TMDL development. Often they involve the interaction of multiple pollutants from numerous sources, some of which have not been discharged for years or decades. Accordingly, while the prompt completion of TMDLs for toxic waters remains a top priority, the Department realizes the need for sufficient data collection, rigorous model development, and unprecedented public involvement to address these often complicated issues. One case in point is Baltimore Harbor. The Harbor has a three-

layered circulation system involving freshwater leaving the Harbor on the surface, saltwater coming in and out with the tides on the bottom, and some degree of mixing in between. This system is dominated by legacy pollutants (i.e., chlordane, metals and PCB's) in the sediments and the potential for sustained reintroduction into the food chain.

Consequently, developing a toxics loading model for such a complicated system is extremely difficult and time consuming. To facilitate public involvement in and understanding of the development of a toxics TMDL for the Inner Harbor. It is the Department's hope that such stakeholder involvement will ultimately expedite completion and, more importantly, implementation of scientifically sound TMDLs. Furthermore, and as mentioned in the above response, the Department has adopted EPA guidance as to the timeline and scheduling of TMDL completion.

Comment 63: Based upon specific data requests and MDE's attempts to provide information [or data justifying 303(d) listing], it appears that the raw data cannot be easily provided to interested parties. Despite the good intentions and efforts of the MDE staff to assist us, we believe that this condition has prevented a complete and adequate public participation process. Complete comments on the listings cannot be made if the data are not available. Furthermore, it appears that MDE's listing process did not include a complete review of the data before a water body was listed. It also appears that specific numerical criteria were not used for listing of all water bodies.

To accomplish the review of the information discussed, we request that MDE provide the raw data that we requested on March 29 and April 2. In addition, we request that MDE extend the comment period to 15 working days after MDE has provided (or we have secured) all of the data relevant to the water bodies where WSSC may potentially be affected.

MDE Response: Documentation of the data sources used to support listing decisions is a high priority for the Department. For this reason, many improvements were made in this year's list, including the provision of data sources and data results in the Integrated List to guide stakeholders as to the information used in support of listing decisions. In earlier 303(d) Lists, data source and results tracking had not been implemented, making departmental response to data requests difficult.

Given this background, on April 22nd, 2002 and before the end of the public comment period the Department provided to the commenter: (1) raw data supporting 2002 biological listings in requested watersheds; (2) hard copy bacterial data supporting fecal coliform listings; (3) the 1996 305(b) report based upon which many of the 1996 listings were made; (4) the 1992 304(l) list upon which the 1996 toxics listings were based; and, (5) references for the State Highway Administration and the Montgomery County stream sampling reports in listing waters of concern. The commenters were also referred to colleagues within the Department of Natural Resources who could possibly elaborate more on the waters in discussion.

The Department places great importance on working proactively with stakeholders and other concerned entities regarding 303(d) listing issues. If any group or individual can provide quality assured data showing that a listed water is unimpaired and can thereby be de-listed, the Department is eager to review those data and use them for de-listing actions.

Comment 64: MDE needs to review water body listings from 1996 and 1998 to ensure that these earlier listings are justified based on sufficient and credible data, before finalizing the 2002 §303(d) list. Our concern is that previous listings were based on insufficient data, resulting in listing of water bodies that are not truly impaired. MDE needs to address such data quality issues during the 303(d) review process.

Furthermore, we encourage MDE to develop policies that clearly define data integrity requirements and the use of water quality data to make impairment decisions. This step will guide listing efforts in the future, ensuring that water bodies are properly listed and categorized in the first place. Accurate data accounting and review processes should be included in such a data integrity program so that data used to support proposed 303(d) listings can be readily shared with the public during the 303(d) public review process.

As an example, we would draw your attention to Montana's "Sufficient and Credible Data" (75-5-702 MCA) legislation enacted in 1997. This legislation requires the Montana Department of Environmental Quality (MtDEQ) to:

1) Develop guidelines that can be used to assess the validity and reliability of the data used in the listing,
2) Use the guidelines to revise the 1998 303(d) list and to remove any water body that lacks sufficient credible data, and
3) Monitor and assess all water bodies that are removed from the 303(d) list as soon as possible.

MtDEQ developed data quality objectives that are used to make "sufficient and credible" determinations, and to guide future data collection efforts. More importantly, MtDEQ reviewed its 1998 §303(d) list using data quality objectives, resulting in the delisting of 486 water bodies for the 2000 §303(d) submittal. Other states have since taken similar approaches to ensure that 303(d) listings are supported by sufficient and credible data.

MDE Response: As noted in a previous response, MDE has been extremely careful in the current draft list to say that water bodies appearing on Part 5 of the 2002 List may require the development of TMDLs. Prior to developing TMDLs, MDE collects additional monitoring data to pinpoint water quality standards violations. During this preliminary data collection phase for 1996 nutrient listings in both the Casselman and Youghiougheny, for example, it was found that these waters exhibited no current nutrient impairment and have since been de-listed in the current 2002 Integrated 303(d) List as a result. The critical point is that even though the State does not have the resources to follow up on all of the earlier listings prior to publishing a new list, in the worst-case

scenario these waters would be re-evaluated in the data collection before TMDL development.

With respect to the development of data standards, this is something that is being actively considered by the Department. Furthermore, the Department has made great strides this year in creating a new 303(d) listing database to document and track the data sources and results used to support listing decisions.

Comment 65: Of particular concern to WSSC are the 1996 listings of Seneca Creek for nutrients and sediments. The data sources for these listings are simply cited as the 1996 305(b) report prepared by the Maryland Department of Natural Resources. No recent quantitative data have been presented which justify these impairment listings. We therefore believe MDE should de-list Seneca Creek (for nutrients and sediments) from Category 5. If necessary it should more properly be placed in Category 2. The same should be done for other water bodies where this situation is applicable.

Seneca Creek is currently listed as follows:

Impairment Category	Pollutant	Source	Data Source	Year Listed	Attainment Status	Priority
Nutrients	Nutrients	Non-point Natural	1996 305(b)	1996	5	Low
Sediments	Suspended Solids	Non-point Natural	1996 305(b)	1996	5	Low
Biological	Unknown	Unknown	MBSS 1997	2002	5	Low

MDE Response: Both sediments and nutrients were listed on the 1996 list because of the mainstem Chesapeake Bay impairment for nutrients and sediments, as well as assessment information provided in the State's inventory of water quality [i.e., 305(b) report]. As a result, the Department must show credible evidence, based on §130.7 "good cause" provision to de-list. If WSSC has credible data indicating that there is no nutrient or sediment impairment in these waters, the Department would be happy to consider these data in support of de-listing.

Comment 66: In Appendix D of the draft 2002 §303(d) list, MDE responded to comments for listing methodologies for identifying impaired surface waters. MDE's response on page 7-7 states "*the [listing] methodologies in and of themselves will not have a direct impact on the public*". WSSC disagrees with this comment. The Agency's methodologies directly result in listing segments as impaired, and each of these listings has far-reaching financial, social and political impacts on all involved stakeholders, including MDE, local jurisdictions and the discharge community. MDE's assertion that listing a segment as Category 2, 3, 4 or 5 does not have a direct and measurable impact on the public is questionable. If this were true, then there seems to be no point to including these water bodies on the list.

MDE Response: MDE believes that the listing methodologies, although helpful in outlining a general approach for determining water quality standards violations, still have the flexibility to allow for professional judgment in cases where natural processes, insufficient data, or difficult interpretation make that appropriate. These methodologies do not have the same force, for example, as a regulation or a discharge permit. There is sufficient public impact that MDE has presented the methodologies for public comment, and will continue to revise them in response to our experience in using both them, public comments, and improved science. However, it is important to note that there will be additional opportunities for public participation before TMDLs are established or regulatory decisions made that affect the rights of dischargers to a given waterbody or other members of the public.

For the second half of the comment, it is not clear to which section of the report the commenter is referring. If the commenter is referring to waterbody attainment status designations 1 through 6, this certainly matters because it identifies waters that may require TMDLs. The priority categories (low, medium and high) simply refer to the likely order in which TMDL preparation or development will occur.

Comment 67: Many of MDE's §303(d) listings are based upon evaluations for which there are no numeric ambient water quality standards upon which to evaluate site-specific data. Most notable are the large number of listings for nutrients, sediments and biocriteria. Water bodies should not be placed on Maryland's 303(d) list without a numeric criterion developed through the rule-making process or a substantial body of data that conclusively demonstrate that the designated uses of a segment are impaired. If the Agency makes a decision that some of the segments need to be listed, they should not be in Category 5, but instead would be more accurately categorized as Category 4c "*impaired for one or more water quality standards but doesn't require a TMDL because impairment is not caused by an identifiable pollutant*." This is particularly true for the large number of biocriteria-based listings added to MDE's draft 2002 list. The Agency should make a substantial effort to de-list as many segments as possible.

MDE Response: MDE disagrees with the commenter's assertion that violation of a numeric water quality criterion is required as a prerequisite for listing. Designated uses and non-numeric or narrative water quality criteria are important and enforceable components of the State's water quality standards. MDE has developed biocriteria protocols in order to determine attainment of these narrative water quality standards for the protection of aquatic life and water contact recreation.

Comment 68: MDE indicates that most of these data are off-site. MDE should consider future data management systems that would allow the supporting data that were used to be available from a central location.

MDE Response: MDE is currently working very closely with DNR to better integrate the 305(b) report and 303(d) lists, which includes using the listing methodologies in order to determine impairment for both the 305(b) report and the 303(d) list. In addition, MDE

is working internally to develop a centralized data management system, EPA's STORET system, for the storage of ambient environmental monitoring data.

Comment 69: The documentation included in the list is vague and does not indicate the frequency, magnitude, or duration of exceedances that led to the water body being listed. At a minimum, a few summary paragraphs should be provided in an Appendix that explain what data were included in the review, what data were excluded (and why), and what data became available after the analysis but were not considered.

Although MDE indicated that it has improved its ability to provide requestors with data, reviewers may still have to contact original data sources and then reconstruct what they believe was the database and decision logic used by MDE. A better system is required to ensure accuracy and prevent the waste of unnecessary resources.

MDE Response: MDE and DNR are currently working cooperatively to provide this type of data summary information for the 303(d) List, although this type of more detailed summary could not be made available for the current list.

Comment 70: Repeatedly in the draft, Maryland Department of the Environment (MDE) asserts that certain waters (for example, waters that are not added to, or are dropped from, the 303(d) list) do not need total maximum daily loads. See, e.g., Draft at 2-3, 2-4, 4-38, 7-42. These assertions violate the plain terms of the CWA, which provides that each state "shall" set TMDLs for all its waters -- both those listed under § 303(d)(1)(A), and those that are not. § 303(d)(1)(C), (d)(3).

MDE repeatedly suggests that waters are to be listed only if water quality standards (WQS) are being violated. See, e.g., Draft at 7-49. To the contrary, the Act clearly provides for listing all waters "for which the effluent limitations required by section 1311(b)(1)(A) and section 1311(b)(1)(B) of this title are not stringent enough to implement any water quality standard applicable to such waters."

MDE Response: Section 303(d)(1)(A) and (C) require listing and priority ranking for TMDL development for only those waters that are water quality-limited. For unimpaired waters, § 303(d)(3) directs states simply to estimate TMDLs for information purposes only. EPA recognizes this important statutory distinction and requires listing of only those waters that are water quality limited within the meaning of § 303(d)(1)(a). See 40 CFR. § 130.7.

Comment 71: MDE cites that a number of programs ("individual control strategies," CERCLA actions, BMPs, Inspection and Compliance Program, etc.) that it claims constitute sufficient basis for refusing to list. See, e.g., Draft at 2-3, 2-4, 4-20. To the contrary, § 303(d)(1)(A) expressly requires listing of all waters for which §§ 301(b)(1)(A) and (B) effluent limitations are not stringent enough to implement any applicable WQS. The other programs cited by MDE do not constitute such effluent limitations, and hence are insufficient basis as a matter of law for refusing to list.

MDE Response: More accurately, the cited sections state that waters for which an identified inpairment is being addressed through one or another of these programs may not "constitute a WQLS requiring the development of a TMDL under section 303(d) of the CWA". This does not mean that these waters will go unlisted, but rather that they would likely not go on Part-5 of the List for TMDL development unless these other regulatory and non-regulatory mechanisms were insufficient in attaining water quality standards.

Comment 72: MDE also argues that some violations of WQS can be ignored for listing purposes -- for example, violations of bacteria standards that last for days (rather than weeks). See, e.g., Draft at 4-38, 7-43, 7-44.

MDE Response: Due to natural conditions and runoff, bacterial concentrations vary widely. For beaches, local health authorities may close beaches for short periods after a rainfall to precautionarily protect bathers even if data are not available to demonstrate high levels of bacteria. Where such exceedences are due to effluent discharge, a closure is warranted and would be imposed until the discharge was eliminated.

Comment 73: MDE's suggestion that data "within two weeks of runoff events" can be excluded from consideration. Draft 4-7. Many serious water quality impairments -- and the WQS violations associated with them -- are storm-related, and indeed may only occur shortly after runoff events.

MDE Response: The commenter is referring to one of the exception clauses in the biocriteria listing methodology, which states: "samples taken within two weeks of runoff events (e.g., heavy rains, sudden heavy snow melt) that result in significant bedload movement (i.e., erosion and transport of sediment) may be considered invalid in the best professional judgment of state biologists and not used for evaluation of stream condition."

In other words, natural storm or other high-flow related events can essentially wash benthic organisms downstream so that population densities and diversity in the monitored stream reach are depressed. In such circumstances, a naturally low biological community score may result although the stream reach is unimpaired. It is in these kinds of situations that biological data showing stream impairment may not be used for listing decisions. However, and as stated, the best professional judgement of State biologists will be used in making a determination of the useability of data for 303(d) listing.

Comment 74: MDE has proposed a lop-sided double-standard, under which high hurdles are used to reject data and avoid listing (or justify delisting). For example, MDE indicates that under its proposed approach, the risk of so-called "Type I" error (listing a water that doesn't belong on the list) is "small," but cryptically describes as "acceptable" (not "small") the risk of excluding a water that should be listed. Draft at 7-33. Indeed, MDE indicates that the mere possibility of Type I error suffices to reject listing. See, e.g., Draft at 7-19 (basing listing on single value "may" lead to improper determination of

impairment). MDE does not explain why it is rational or lawful to be more solicitous of Type I than of Type II error, and we submit no such explanation is possible.

MDE Response: The commenter is making an improper distinction between the words "small" and "acceptable". The Department equitably seeks to minimize both the listing waters that are not impaired and the omission of waters that are.

Comment 75: Waters must be listed where §§ 301(b)(1)(A) and (B) effluent limitations are inadequate to implement designated uses and narrative standards (i.e., not just numeric criteria). Although recreation is among Maryland's uses and narrative standards, MDE apparently has considered only health impacts on recreation, thereby failing to recognize or evaluate aesthetic impairments. In particular, even where water might not pose a threat to the health of the recreationist, it may still have properties (e.g., turbidity, floating solids, oily sheens, or odor) that impair recreational use. In order to protect recreation -- and implement its WQS through the listing process -- MDE's listing decision must encompass these aesthetic impairments.

In this regard, for example, the draft's discussion of turbidity (Draft at 4-36 to 37) unlawfully fails to acknowledge these aesthetic impacts on recreation. Indeed, that discussion apparently proposes to base water clarity listing decisions entirely on numeric criteria, without considering whether -- even where applicable numeric criteria are met -- there is interference with uses or with narrative standards. Such an approach is -- as MDE itself elsewhere recognizes, Draft at 7-23 -- improper. All components of WQS, not just some of them, must be reflected in listing determinations.

MDE Response: The Department agrees that it is worth considering how it might develop some kind of guidance for listing waters due to loss of recreational use. At this time, however, and in contrast to the biocriteria guidance available for impacts to the aquatic community, the Department has limited guidance by which to list waters for loss of water contact recreation. The Department does, however, list waters for loss of recreational use when bacterial levels become unsafe for water contact recreation.

Comment 76: After several readings, and examination of the accompanying decision documents, we continue to have difficulty understanding exactly which waters MDE is proposing to list. For example, the list includes an entry for the "Non-tidal" "Anacostia River," for "Bacteria." Does this mean the entire nontidal portion of the basin (including Northeast and Northwest Branch and other tributaries), or just the nontidal portion of the mainstem?

MDE Response: Yes, the non-tidal Anacostia is the whole 8-digit basin and includes both the Northeast and Northwest Branches.

Comment 77: The entries for the Anacostia are mystifying. The non-tidal portion (but apparently not the tidal) is to be listed for nutrients, and the tidal (but apparently not the non-tidal) portion for nutrients and sediments. First, given that bacteria are (according to MDE) worthy of listing upstream in the non-tidal portion, and (according to D.C.) are

worthy of listing downstream in the tidal D.C. portion, the Maryland tidal portion -- the basin segment between those bacteria-impaired segments -- must qualify for listing also. Indeed, information presented by WASA and others confirms as much. Second, nutrients and sediments interfere with WQS not just in the tidal Anacostia, but upstream in the non-tidal portion as well, which include large developed areas which send sediments, fertilizer, pet waste, and other similar contaminants into the Northeast and Northwest Branches and other tributaries. Finally, despite information from AWTA and others indicating toxics impairments in the Maryland portion of the Anacostia basin, the draft does not list that portion for toxics.

MDE Response: Corrected. Since both tidal and non-tidal portions of the Anacostia are in Maryland, the sediment, nutrient and bacterial impairments have been revised to include both the tidal and non-tidal reaches.

Comment 78: The District of Columbia suffers from significant impairment of the Anacostia, Rock Creek, and the Potomac due to pollution flowing from the Maryland portion of those basins. This issue is not discussed in the draft, and in particular MDE does not explain how it will shoulder its obligation to stop this transboundary pollution, so as to end and prevent violations of WQS in the District.

MDE Response: The Department of the Environment is currently coordinating with District representatives on these transboundary issues related to 303(d) listing and TMDL development. Through these interactions, the Department feels that a good foundation is being built from which to address these interjurisdictional issues. Cooperation with the District, the counties, the cities, other State agencies, and the general public is a high priority for the Department.

Comment 79: CBF strongly supports the inclusion of sewage releases as a listing methodology. However, we are unclear on one statement regarding this listing criterion. On page4-38, it states, "if any water body segment has received two spills greater than 30,000 gallons over any 12-month period after the listing or after system improvements have been made, that water body will be considered impaired". Wouldn't the two spills of 30,000 gallons or more be criteria to determine the listing?

MDE Response: Corrected. "After the Listing" language deleted.

Comment 80: The 303(d) list should indicate the status of the TMDL after approval, identifying when an approved TMDL will be fully implemented.

MDE Response: The requirements for implementation plans in TMDL's or the time frame for implementation are not clear at this point. Regulatory action by USEPA should clarify the implementation plans before the next listing period. This will be addressed at that time.