APPENDIX E – Comment-Response Document for the 2004 303(d) List

Author	Affiliation	Date
David Blazer	Maryland Coastal Bays Program	January 12, 2004
F. Paul Calamita, McGuireWoods LLP	Maryland Association of Municipal Wastewater Agencies, Inc.	January 20, 2004
Ellen Cline	Private citizen	January 14, 2004
Howard I. Fox	Earthjustice	January 14, 2004
Robert Koroncai	EPA Region III	January 20, 2004
Steve Nelson	**Carroll County Department of Planning Bureau of Resource Protection**	January 13, 2004
Lee Walker Oxenham	Patapsco Riverkeeper	January 14, 2004
Steven Stewart	Baltimore County Department of Environmental Protection	January 14, 2004
James Stuhltrager	Mid-Atlantic Environmental Law Center	January 14, 2004
Duane A. Wilding	Severn River Association	January 13, 2004

David Blazer MARYLAND COASTAL BAYS PROGRAM 9609 Stephen Decatur Highway Berlin, MD 21811, 410-213-2297,410-213-2574 (fax) mcbp@mdcoastalbays.org

Comments:

1. The 2004 list combining impaired and non-impaired listings provides an effective framework for evaluating all readily available information in order to identify impaired water bodies, assign management priorities and schedule TMDL development**.** It is our experience that the data can be hard to find, and we would recommend posting or distributing state agency contact information for stakeholders to use for further inquiries about monitoring results.

   MDE Response: Appendix B of the 303(d) List currently displays the names of organizations that contribute data to the program. If you need additional contact information for 303(d) listings or Total Maximum Daily Loads, please contact Melissa Chatham (mchatham@mde.state.md.us) at (410) 537-3937 or Elaine Dietz (edietz@mde.state.md.us) at (410) 537-3667.

2. We would also recommend expanding the state TMDL list serve to update stakeholders on new goals, monitoring techniques, and the coordination of MDE/DNR monitoring, and examples of TMDL implementation efforts.

   MDE Response: This is an excellent suggestion that will be implemented with future 303(d) endeavors.

3. Our office submitted volunteer water quality data (1997 – 2002) and the quality assurance project plan in response to the joint Maryland Department of the Environment (MDE)/Maryland Department of Natural Resources (DNR) data solicitation in March 2003. It appears the data is not included by reference in Appendix B. Can you tell us if the reference is an omission, if this data was incorporated into the listing assessment, or if the data format was unusable? How can our monitoring program better compliment the State's efforts?

   MDE Response: This was an omission that will be rectified with the final submission to EPA in April.

4. Section 3.2 outlines the Chesapeake Bay Benthic Index of Biological Integrity for estuarine impairment evaluation. If appropriate this index should be applied statewide to all estuarine environments including the Coastal Bays, or we should collaborate on the development of an appropriate index specifically for these embayments.

   MDE Response: Discussions to expand the estuarine IBI's to include Coastal Bays are currently under way. DNR plans to discuss this subject with their contractor (Versar) and pursue the possibility of fully integrating the Coastal Bays BIBI work into the same database as the Bay BIBI in 2005.

Steve Stewart, Baltimore County Watershed Management and Monitoring, 410-887-4488, SSTEWART@CO.BA.MD.US

Comments:

1. Tables 6 and 7 are not referenced and discussed in the text. Since there is overlap between these two tables in information, the differences in the tables should be explained to clarify what they are showing.

   MDE Response: Corrected

2. Page 30, Section 3.3: The text details changes in the bacterial listing changes, but refers only to Use I, II or IV waters. Use II is shellfish waters and those changes are referenced under section 3.4. The changes should be for Use III waters.

MDE Response: Corrected

3. Page 60 of the Category 5 list: Overshot Run (2 listings for Biological impairment) is in the Loch Raven Reservoir watershed not in the Little Gunpowder Falls watershed. Either the listing is in the wrong watershed or the subwatershed listed is wrong.

   MDE Response: corrected

4. Page 63 of the Category 5 list: Fecal coliform impairment for Prettyboy Reservoir is listed twice. Both listings are for the same site. Should this only be listed once?

   MDE Response: These are actually not separate listings but two different years of data which both support the impairment determination. However, the older of the two data sources was deleted to minimize confusion.

5. Page 64 of the Category 5 list: Nutrient impairment for Browns Creek is listed twice. Both listings are for the same tidal water body. Should this only be listed once?

   MDE Response: Same response as above.

6. Page 70 and 71 of the Category 5 list: In light of the finding presented at the most recent Baltimore Harbor TMDL – SAG meeting should Baltimore Harbor still be listed for Chromium, Zinc and Lead? The results of recent monitoring indicate that concentrations of these two metals in the sediment are not at impairing levels. The current listing was developed prior to the availability of this recent data.

   MDE Response: The Baltimore Harbor metal listings will remain on Part 5 until the completion of further studies to document the fate of legacy sediment impairments with respect to the food chain and surrounding water column. Any listing will change will not occur until the next 303 d list. Data used as good cause for delistings in the current 2004 List had to be received before April 30, 2003. After that date, no other data is considered, and all changes go onto the next 303d list.

7. Page 72 of the Category 5 list: Jones Falls has three listings for Fecal Coliform impairment. The listing at the Core site is below the 200 MPN/100ml level. Should this only be listed once?

   MDE Response: The database was updated to reflect both 2002 monitoring data as well as recent data received from Baltimore City. Core station JON 0184 now displays a long-term geometric mean of 344 MPN/100ml and Baltimore City data shows a geometric mean of 2,724 MPN/100ml.

8. Page 75 of the Category 5 list: Gwynns Falls has three listings for Fecal Coliform impairment. Should this only be listed once?

MDE Response: The Gwynns Falls watershed is only considered one broad fecal coliform listing for the entire watershed. However, three separate data sources located in different parts of the watershed were used as the bases for the 8-digit scale listing.

9. Page 7 of the Category 6 list: Councilmans Run is listed twice for the same site. Should this only be listed once?

   MDE Response: corrected

Steve Nelson, Water Resources Specialist, Carroll County Department of Planning, Bureau of Resource Protection, Westminster, MD 21157, 1888-302-8978

Comments:

1. Carroll County recently received a letter indicating that EPA concurs with MDE's determination that the recent data, from MDE's Water Quality Analysis, show that a sediment TMDL is not necessary for Piney Run Reservoir. Currently, Piney Run Reservoir remains on the draft list under Category 5 (although it was difficult to find because the name of the waterbody was not included on the list). I request that this impoundment be removed from Category 5 and added to Category 6 officially de-listing this waterbody as impaired for sediment.

   MDE Response: Corrected.

2. Carroll County Government's Bureau of Resource Management has been collecting benthic macroinvertebrate data since 1998 for Piney Run Reservoir watershed (basin code #02130908-1023) and since 2001 for the Gillis Falls (#01130908-1025, 1030, and 1031) and Big Pipe Creek watersheds (#02140304-0282, 0284, 0286, and 0287). I request that MDE consider the County's historical data before MDE submits the 2004 list for EPA approval. Carroll County will submit the biological information for MDE's consideration. I also request that a meeting be held in February 2004 to discuss the County's data and how it will affect the listing of these waterbodies.

   MDE Response: MDE met with Carroll County's Planning Staff to discuss these issues. Carroll County (CC) expressed concern that one impaired station in a 12-digit watershed results in a listing at that watershed scale. MDE staff assured CC that the exact location of the impairment is also included in the listing and that a TMDL would not be necessary for the whole 12-digit watershed but rather targeted to the precise region of impairment.

   The County also provided MDE data from their biological assessment program for use in the 303(d) Listing process. The County felt very strongly that local data should be used and that a mean IBI score should be used for listing decisions when there are 10 or more sample sites in a 12-digit watershed (similar to the 8-digit approach

described in Maryland's Biocriteria Listing methodology). MDE agreed to take these comments under consideration during the next update (2006) of the Biocriteria Listing Methodology. MDE also agreed to use CC's data in the 303(d) Listing process to provide greater spatial resolution at the 12-digit scale and better targeting of impaired segments for TMDL development.

3. Please provide the justification (i.e., specific calculations for each site in Gillis Falls, Piney Run, and Big Pipe Creek) that prompted MDE to include these sites on the 303 (d) list as impaired for biological reasons.

   MDE Response: Gillis Falls is listed on Part 2 of the consolidated list (meets some water quality standards and there are insufficient data and information to determine if other water quality standards are being met), which does not require a TMDL.

   Piney Run was assessed in 1996 using MBSS stations CR-P-363-212-96 and CR-P-376-104-96, which yielded a FIBI>3, a BIBI<2.25, and a FIBI>3 , a BIBI>2.25, respectively. Big Pipe Creek (a subbasin in the Double Pipe Creek watershed – 02140304) was assessed in 2000-2002 at multiple MBSS stations. All FIBI scores and associated one-sided upper bound confidence intervals in the Big Pipe Creek subbasin fell below the impairment threshold of 3. The raw FIBI scores were 2.43, 1.57, 2.71, and 2.43 at stations DOUB-407-R-2002, DOUB-119-R-2002, DOUB-214-R-2002, and DOUB-116-R-2002, respectively.

4. The 12-digit watersheds called Piney Run (#02130908-1023) and Gillis Falls (#02130908-1025) are included in category 5 and 6. Please explain the reason why these watersheds are included in both categories.

   MDE Response: As stated previously, Gillis Falls is not located on part 5 of the consolidated list. It is considered healthy and does not require a TMDL. See details in above comment 3 with respect to Piney Run.

Ellen Cline, 5590 Araby Place, Indian Head, MD 20640, 301-743-7033

Comment:

1. Any list of impaired waters will be incomplete without including Araby Bog and the waters flowing from it. Located in Western Charles County, Maryland, Araby Bog is one of the last remaining sweetbay magnolia bogs.

   MDE Response: Any data that you may have on water quality conditions or degraded habitat within the drainage would be of great assistance in making water quality impairment determinations.

Howard I. Fox, EARTHJUSTICE
1625 Massachusetts Ave., N.W., Suite 702 Washington, D.C. 20036-2212 (202) 667-4500 FAX (202) 667-2356 hfox@earthjustice.org

Comments:

1. Refusal to take aesthetic uses into account. For example, MDE does not and cannot justify refusing to take aesthetic impacts on recreational use into account in listing. *See* Earthjustice 2002 Comments ~ 7. The assertion (2002 Response to Comments Item 75) that MDE has "limited guidance" on how to take recreation into account is certainly no justification. All components of water quality standards --including those addressing aesthetic uses --must be implemented under § 303(d). Given that aesthetically based approaches have been followed in other states and approved by EP A, there is no basis for arguing that such approaches are infeasible.

   MDE Response: The Department believes that healthy aquatic ecosystems are the most appropriate benchmarks for legitimate aesthetic expectations. Over the past several years, MDE has committed considerable resources to review and improve its water quality criteria to protect aquatic life and human health, and to develop and implement a meaningful program for biological assessment. These efforts have resulted in a set of water quality standards and methodologies that the Department believes are protective of all of the designated uses of Maryland waters and representative of healthy aquatic ecosystems. Accordingly, upon consideration, MDE has declined at to establish additional numeric criteria that would purport to protect aesthetic or recreational uses. Should the Department become aware in the future that our existing criteria and our assessment methodologies are insufficient to protect some legitimate aesthetic or recreational expectation, the issue will be revisited.

2. Unlawful exemptions from listing. Nor can MDE lawfully decline to list waters based on allegations that other programs will solve impairments. *See* Earthjustice 2002 Comments ~~ 2-3. As we previously pointed out, "§ 303(d)(1)(A) expressly requires the listing decision to be based on whether the §§ 301(b)(1)(A) and (B) effluent limitations are stringent enough to implement WQS. If they are not stringent enough, the water at issue must be listed, regardless of whether the water comes into compliance with WQS in the future based on other programs. See also § 303(d)(4)(B) (recognizing that, for some waters on the § 303(d)(1)(A) list, 'the quality of such waters equals or exceeds levels necessary to protect the designated use for such waters or otherwise required by applicable water quality standards").

   MDE Response: Current EPA guidance and recommendations for state 303(d) Lists expressly allows certain water bodies to be placed on a part of the integrated 303(d) List that does not require a TMDL. Specifically, parts 4b and 4c of the List are designed for those waters where a TMDL may be inappropriate because a technological fix will correct the impairment or because the impairment is not caused by an identifiable pollutant, respectively.

3. Chesapeake Bay. Incredibly, MDE's draft lists the Chesapeake Bay as "Low" priority. The Bay is the nation's largest estuary, and Maryland's premier waterbody --indeed, one so prominent that it even appears on the State's license plates ("Treasure the Chesapeake"). As MDE well knows, the Bay suffers from serious impairments that require aggressive action to redress and prevent. The notion that MDE would assign this crown jewel of its waters a "low" priority is appalling. Instead, the State must and should promptly prepare the long-overdue TMDLs required by the Clean Water Act. *See, e.g.,* -Arkansas v. Oklahoma. 503 U.S. 91, 106 and 108 (1992) (noting that "[t]he achievement of water quality standards is one of the Act's "central objectives," and that § 303(d) is "designed to remedy existing water quality violations and to allocate the burden of reducing undesirable discharges between existing sources and new sources").

   MDE Response: While the current 303(d) List identifies the Anacostia and Chesapeake Bay as low priority for TMDL development, this does not demonstrate the high level of effort currently underway to identify and document pollution loadings in the watersheds. Nor does it account for the exhaustive management efforts that must be considered before such a complex TMDL implementation strategy can be effectively administered. As a result, the extensive data and overall high level of effort required to evaluate these water bodies does not reflect the assigned low priority. Furthermore, the State has been given a window of opportunity by EPA to allow the commitments agreed to by signatories the Chesapeake 2000 (C2K) to take effect. If considerable progress implementing the goals of C2K are not realized by 2010, then the State may be forced to develop a TMDL after that date.

   The commenter has confused prioritization of TMDL development with prioritization for environmental improvement. The Chesapeake Bay is clearly at the top of the list of Maryland's priorities for environmental improvement, particularly with respect to nutrient reduction. To that end, the Erlich administration has sponsored legislation that would fund the installation of enhanced nutrient removal technlogy at every major wastewater treatment plant in the state by 2011

   The expectation is that the Chesapeake Bay states and the federal government can work together to eliminate the impairment of the Bay without expending further government resources on TMDLs and unnecessary regulatory action. The prioritization and scheduling of TMDL development in the Chesapeake reflects this commitment.

4. Bacteria Methodology. The assessment methods MDE has used for determining whether to list waters due to bacterial contamination are illegally biased against listing on several grounds. First, listing based on fecal coliform data is apparently limited to situations where the long-term geometric mean exceeds 200 MPN/lOO ml. Such an approach improperly ignores high seasonal, short term, or single sample levels. EPA's water quality criteria for fecal coliform include both geometric means and single sample maximums. EPA, Implementation Guidance for Ambient Water quality Criteria for Bacteria, May 2002 Draft, pp 17-19,24-25; EPA, Ambient Water

Quality Criteria for Bacteria -1986 at 8 & Table 4. A water body can comply with a geometric mean for fecal coliform and still be unsafe for swimming or partial contact recreation due to elevated bacteria levels on individual days. Regardless of whether the state has adopted a single sample maximum criteria for fecal coliform, a water body with a designated use of full or partial contact recreation must be listed if it exceeds EPA 's single sample maximum criteria for fecal coliform, ecoli, or enterococci.

MDE Response: In the 1986 EPA document title "Ambient Water Quality Criteria for Bacteria" it is stated that in deciding whether a beach should be left open, it is the long-term geometric mean bacteria density that is of interest. It continues to note that due to day-to-day fluctuations around this mean, a decision based on a single sample may be erroneous, i.e., the sample may exceed the recommended mean criteria even though the long-term geometric mean is protective, or may fall below the maximum even if this mean is in the non-protective range. In development of the original criteria, it was the summer geometric mean that was correlated to human health risk levels and the single sample maximums were developed using an average standard deviation estimated from combining the study sites. It is also important to point out that the study areas were typically lakes and not free flowing streams, thus it is probable that the day-to-day fluctuations around the mean (deviation) would be less than that in a more dynamic free-flowing stream. Thus the EPA recommended single sample maximum would be expected to be less than that calculated in a free flowing stream. MDE acknowledges that the 1986 criteria was developed for E. coli and enterococci, however it is stated in the report that based on geometric mean ratios, a maximum geometric mean of 200 MPN/100 ml would cause an estimated 8 illness per 1,000 swimmers at freshwater beaches.

In the May 2002 draft EPA document titled "Implementation Guidance for Ambient Water Quality Criteria for Bacteria", EPA does recommend both a geometric mean and single sample maximum for beach areas (the focus of this document). First they note that using both criteria will allow the States to determine whether a water body is attaining its water quality standards and issue beach notifications and advisories. MDE interprets this as use of a geometric mean to assess water quality standards and exceedence of the single sample maximum values to issue notification to designated beach areas.
MDE interprets the long-term geometric mean as representative of the water's year around usage but understands that in some areas may experience high bacterial counts during warmer temperatures. However, after review of Maryland's Core station data, there are watersheds that also have high levels throughout the colder months. To address all waters on an equitable basis and account for use over all four seasons (e.g. canoeing, kayaking, etc) the geometric mean is more representative of the risk associated with the 1986 EPA bacteria criteria.

Designated Beach Areas

Maryland County health departments, responsible for monitoring bathing beaches, have identified and designated natural bathing areas and prioritized them based on

risk factors such frequency of use, potential pollution sources, historical water quality, etc. Monitoring is only one of many tools that a county environmental health director has to make risk-based public health decisions: whether to post an advisory or closure of a beach as necessary. Monitoring is done based on the priority given by the county:

- Tier 1 (High priority) – Weekly
- Tier 2 (Medium priority) – Biweekly
- Tier 3 (Low Priority) – Monthly
  MDE is currently working on integrating these County identified beach areas into the integrated 303(d) list.

Frequent monitoring is meant to capture short-term increases in pathogen indicator levels. However, factors such as tides, wind, rainfall, impacts from bathers, etc. make characterizing the bacteriological difficult and imprecise. For listing purposes, MDE feels the long term geometric mean is more representative of the risk associated with Use I waters and shorter period geometric mean and a single sample maximum is more applicable to assessment of designated bathing beaches.

5. Anacostia Bacteria Listing. In its response to comments on the 2002 303(d) list, MDE noted (at Item 77): "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." (Emphasis added.) However, the draft 2004 list has deleted the bacteria listing for the tidal portion of the Anacostia. "Dividing Creek (basin 02130204), the Anacostia River (basin 02140205), and Wicomico River headwaters (basin 02130304) were erroneously listed as tidal waters when they should have been listed as nontidal." Draft 2004 List at 44, Chapter 3.8.4 (emphasis added). MDE has offered no explanation, much less a reasoned one, for this change.

   MDE Response: Anacostia listing has been changed back to include both tidal and non-tidal segments.

6. Anacostia TMDLs. The Anacostia River suffers from serious pollution problems, described in *Kingman Park Civic Assn.* v. *EP A,* 84 F .Supp.2d 1 (D.D.C. 1999), and "has been bestowed with the dubious distinction of being one of the ten most polluted rivers in the country." *Id.* 4. Maryland, whose borders encompass over 80% of the Anacostia Watershed, bears substantial responsibility for water quality standard violations both within its own parts of the watershed and in the downstream reaches of the River that flow through the District of Columbia. To date, however, while the District of Columbia has prepared several TMDLs, Maryland has prepared none. Moreover, far from indicating any urgency about shouldering its responsibilities for the Anacostia, MDE's draft 2004 list characterizes the Anacostia as "low" priority for nutrients, sediments, and biological impairments, and "medium" priority for toxics. At meetings in the District of Columbia on TMDL issues, MDE staff have been

evasive when asked when MDE will prepare TMDLs for their portion of the watershed. MDE's failure to prepare TMDLs for the Anacostia violates the Clean Water Act, which required TMDLs to have been established long ago, § 303(d), and also demonstrates a lack of commitment on the part of MDE do its share to clean up this long-abused river.

MDE Response: In order to identify Maryland's pollutant loads in the Anacostia River and provide defensible solutions to bacterial reductions, MDE has initiated several watershed scale monitoring programs. First, from November 2002 to November 2003, MDE collected bacteria information for enumeration and bacteria source tracking. The objective of the study is to characterize the Anacostia Maryland 12-digit scale subwatersheds and identify relative sources of bacterial contamination. MDE also selected the Anacostia and surrounding watersheds bacteria source tracking results to be part of the first completed on the Western Shore. The results are to be available in Spring 2004. In a second monitoring effort, MDE has collaborated with USGS and Prince Georges County, in an innovative monitoring study to estimate loads from both the Northeast and Northwest Branches.

MDE has committed extensive resources to assessment of the Anacostia and innovative monitoring to assist in TMDL development. These initiatives demonstrate a strong commitment to the Anacostia watershed with the goal of identifying scientifically defensible solutions to the elevated bacterial levels in the Anacostia River.

7. We also question the state's procedure of requiring a sanitary survey before listing a water body based on elevated fecal coliform counts. Where the water body shows bacteria levels exceeding EPA or state criteria, it warrants listing. Under § 303(d), absence of documentation concerning the causes of the bacteria exceedances is not a valid reason for refusal to list.

   MDE Response: Swift identification and initiation of pollution abatement initiatives negates the necessity for a long-term TMDL application if (as with broken sewage infrastructure) the source can be quickly identified and there are sufficient resources to fix the problem within a reasonable period. Water body impairments assigned to category 4b will be addressed in a reasonable timeframe.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III 1650 Arch Street Philadelphia, Pennsylvania 19103-2029
Robert Koroncai, Chief, VA/MD/DC Branch, Office of Watersheds

Comments:

1. In Section 2.5, we suggest including a reference to the published methods or minimum requirements associated with data quality that the State would accept in order to support water body assessments and to make listing decisions.

MDE Response: The QA/QC required for data considered under these protocols is listed under (Guidance for Quality Assurance Project Plans.

Dec 2002. EPA /240/R-02/009) at http://www.epa.gov/quality/qs-docs/g5-final.pdf

2. After reviewing the discussion in Section 3.1 concerning changes to the freshwater biological assessments and associated listings, it is unclear whether the former methodology (i.e., used for the 2002 listing cycle) was flawed or if the resulting decisions should be considered invalid. For example, is it appropriate that an "indeterminate" conclusion based on the Round Two data should supercede a "degraded" conclusion based on the Round One data, especially in watersheds listed for other impairments? Please elaborate on the specific changes made in the interpretation of the Maryland Biological Stream Survey (MBSS) data from Round One to Round Two. Also, clarify whether a 12-digit basin analysis was only performed where ten or more samples exist.

   MDE Response: No changes were made to the biocriteria listing methodology in 2004. The same listing methodology used to make listings in 2002 was used in 2004. The difference between these two years is that confidence intervals were not available for the Round One (1995-1997) data used for the 2002 listings. The contractor that DNR used to do the MBSS data analysis in 2002 did not provide the confidence interval (CI) information before MDE finalized the 2002 List. As a result, MDE only received a summary of the Round One data from DNR identifying whether the FIBI or BIBI scores were greater than or less than 3. This also meant that the mean IBI scores and the mean CIs for the 8-digit level assessments were not calculated.

   Despite this fairly coarse data summary and to be conservative, MDE erred on the side of impairment in the 2002 List and listed any waters scoring less than 3. In point of fact, however, if CIs had been calculated many waters with a raw BIBI or FIBI score below 3 may have had the upper bounds of their CIs above 3, meriting an indeterminate impairment status. In the 2002 List, MDE realized that these data insufficiencies would result in a large reinterpretive effort for biological data used in the 2004 List. Section 2.1.3, Page 2-4 of the 2002 List states “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.”

   The Round Two (2000-2002) data received for interpretation in the 2004 List contained all of the necessary CI analysis required by the biocriteria methodology. These CI data allowed MDE to make individual 12-digit scale assessments using a default CI as well as make 8-digit scale assessments (when 10 or more sites were sampled in an 8-digit watershed) because both the mean IBI scores and the mean CIs

had been calculated. Therefore, these data were more accurate and appropriate for making water body impairment determinations.

As a result of this availability of CI information for 2004 data and since Round 1 and Round 2 data could not be pooled due to inconsistencies in data collection techniques between sampling years, all Round Two MBSS data, where available, trumped or replaced Round One data used n the 2002 List. For example, where Round One data and the 2002 List suggested that a water body is impaired but Round Two data suggested otherwise (either unimpaired or indeterminate), the Round Two data was used to determine final water body status in the 2004 List. Again, no specific changes were made in the interpretation of the Maryland Biological Stream Survey (MBSS) data from Round One to Round Two, but rather the Round Two data better implemented the conditions set forth (i.e., the use of confidence intervals for both 8-digit and 12-digit scale data interpretation) in Maryland's biocriteria listing methodology.

Lastly, 12-digit analysis (approximately 11 square mile watersheds) was only performed when the larger 8-digit basins contained fewer than ten samples. When ten or more samples were collected in an 8-digit watershed and contained either 10 FIBI scores or 10 BIBI scores, the mean of these data as well the mean confidence interval were used to make an impairment determination at the 8-digit scale. Because these new data and analyses fully implement the State's biocriteria listing methodology, MDE considers this current information of higher quality and therefore more appropriate for making regulatory decisions. For situations where the newer, more accurate data did not corroborate earlier 2002 listings (i.e., a 12-digit watershed was listed as impaired in 2002 but new data support listing this watershed as indeterminate or unimpaired), the original 2002 listing was placed in Category 6 or de-listed and a new 2004 listing was added to reflect the current assessment status.

3. Concerning the comment in Table 3 and in Section 3.1.6.1 regarding Savage River, the 8-digit basin (non-tidal) is also listed for sediments, so it should not be listed under Category 2 based on the biological data. Also, in Table 4, we note that the B-IBI score is markedly lower at the location of the lowest pH reading.

   MDE Response: The high biological integrity scores in the larger Savage River watershed and calculated mean IBI and confidence intervals for the 8-digit basin support an unimpaired biological status. Since biota, particularly benthos, are extremely sensitive to sedimentation and other sediment related impacts, these high biological scores at the 8-digit level suggest that the watershed is not impaired by sediments. Sediment related habitat data collected by the MBSS program also indicate an unimpaired sediment condition in the larger 8-digit Savage River watershed (see table below). Moreover, land use analysis indicates that the Savage River watershed is approximately 97% forested, suggesting an unimpaired status with respect to sediment (see GIS map located on page 19 of the 2004 303[d] List). The 1996 listing for sediments in the Savage River was anecdotal, has no supporting data,

and likely resulted from the presence of some acid mine flocculent (yellow boy) in Aaron Run.

Station	Erosion Severity (left)	Erosion Severity (right)	Percent Embeddedness	Notes
SAVA-401-R-2002	None	None	20	SITE SAVA-414-R-2002 IS APPROX. 600M DOWNSTREAM. NARROW WHITEWATER AREAS THROUGHOUT MOST OF SITE.
SAVA-410-R-2002	None	None	25	SAVAGE RESERVOIR IS 400M UPSTREAM.
SAVA-414-R-2002	None	None	20	MANAGED TROUT FISHERY BELOW SAVAGE RIVER RESERVOIR. MOSTLY FAST RIFFLE HABITAT
SAVA-120-R-2002	Minimal	Minimal	15	PRISTINE - LIKE TYPICAL SAVAGE RIVER TRIB. DEEP IN THE SAVAGE FORESTS OF GARRETT COUNTY & YET ANOTHER >1.5 KILOMETER HIKE, MANY NICE REMOTE SITES THIS YEAR.
SAVA-312-R-2002	None	Moderate	15	VERY REMOTE.
SAVA-104-R-2002	Moderate	Moderate	15	PAVED ROAD PARALLELS STREAM , VERY STEEP BANK FROM ROAD TO STREAM.
SAVA-117-R-2002	None	None	20	BIG FIRST ORDER STREAM. WAS A 2ND ORDER WHEN WE SAMPLED HERE IN ' 1994,01996, & 1999'. REFERENCE SITES FOR IBI'S ARE ON THIS STREAM. VERY NICE, CLEAN, FORESTED.
SAVA-119-R-2002	None	None	15	SAVA-104-R-2002 IS APPROX. 500-M DOWNSTREAM.
SAVA-308-R-2002	Minimal	None	20	
SAVA-105-R-2002	None	None	35	STEEP FORESTED VALLEY. MANY PLUNGE POOLS, SEE PHOTO. EXCELLENT STREAM. STEEP

				ENOUGH TO HAMPER TROUT MOVEMENT UPSTREAM.
SAVA-116-R-2002	Minimal	Minimal	25	VERY REMOTE, ATV TRAILS ALONG STREAM ON PUBLIC LAND.
SAVA-103-R-2002	Minimal	Minimal	30	STREAM FLOWS THROUGH HEMLOCK FOREST. GREAT FISH HABITAT. HIGH SILT LOAD COMPARED TO MOST SAVAGE TRIBUTARIES
SAVA-115-R-2002	No data	No data	No data	MSALL STREAM. FLOWS THROUGH FRONT OF LANDOWNERS YARD. DOESN'T LOOK LIKE MOWED LAWN.
SAVA-206-R-2002	None	None	20	SUBSTRATE IS SURROUNDED BY FINE SEDIMENT. EXCELLENT HABITAT. RECENT TIMBER HARVEST UPSTREAM OF SITE & RECENT BEAVER ACTIVITY ALONG STREAM.

For these reasons, MDE believes there is good cause to de-list the 8-digit, non-tidal Savage River sediment listing and place the entire flowing portion of the Savage in category 2 of the Integrated List for biology. The impoundment listing for mercury in the Savage Reservoir will remain in category 4a since a TMDL has been completed for that listing.. Lastly, the specific 12-digit basin in question with the lowest pH and consequent biological impairment (basin code 021410060083) was already included in category 5 of the list as needing a TMDL.

Segregating the listings in this fashion better reflects the specific location, water body type, scale and nature of the listed impairments. This helps the Department's TMDL program better identify, track and address the specific waters needing TMDLs and follow up monitoring. It also gives a clearer picture of MDE TMDL activities to the public and other stakeholders.

4. The following are some suggested additions to Section 3.2.1.3:
    a. The four categories of B-IBI scores should be 1.0-2.0; 2.1-2.9; 3.0-3.9; and 4.0-5.0
    b. The methods for calculating the B-IBI itself can be found at the web site: http://www.baybenthos.versar.com/referenc.htm
    c. Segments having less than ten samples were not considered for the analysis

MDE Response: Corrected

5. As a global suggestion, we request that the table headings not be shaded because they tend to hide the header text in copies of the report.

   MDE Response: Corrected.

6. In Section 3.3., we concur that the use of the long-term geometric mean for analysis of bacteria data is appropriate. However this section should provide additional clarification, as follows:
   a. The EPA guidance that was cited should not be referenced because it was written for enterococcus and not fecal coliform;
   b. Justification should be provided as to how the use of the geometric mean is consistent with the criteria described at COMAR 26.08.02.03-3; and,
   c. Discuss whether Maryland has considered or will consider E. Coli or Enterococci data pursuant to Subsection I of COMAR 26.08.09.06.

   MDE Response: MDE acknowledges that the EPA guidance was developed for use with E. coli and enterococcus. However, in the original 1986 water quality bacteria criteria report, it was noted that using a fecal coliform indicator group at the maximum geometric mean of 200/100ml would cause an estimated 8 illnesses per 1,000 swimmers at fresh water beaches. This is the same risk factor used to develop the E. coli and enterococci geometric mean limits of 33/100ml and 126/100ml, respectively. Therefore, based on a consistent risk of 8 illnesses per 1,000 swimmers associated with the three indicators previously mentioned, MDE interprets the EPA guidance from the 2002 guidance document applicable to all three indicators – E. coli, enterococci and fecal coliform. Therefore, as an iterim, MDE assumes that based on the equivalent risk, the bacteria criteria can include the fecal coliform as an indicator.

   The Use I waters assessed for bacteria during this listing cycle did not include stations located at any of these designated beach areas. Primary contact use for these waters is less frequent than beaches and can occur anytime throughout the year (i.e. canoeing, kayaking, etc). In addition, some monitoring stations identify high bacterial counts during the summer season and some have high bacterial counts during winter months. To assess these waters on an equitable basis MDE adopted the long-term geometric mean, which is applied to monitoring datasets with at least one year of data but not more than five years of data. County health departments, responsible for monitoring bathing beaches, have identified and designated natural bathing areas and prioritized them based on risk factors such frequency of use, potential pollution sources, historical water quality, etc. MDE is in the process of incorporating these areas into the 303(d) list as frequently used bathing beaches. These waters are used during the summer season and MDE requires use of both the geometric mean and single sample maximum criteria.

   MDE currently has new regulations out for public review (See draft beach regulations

COMAR 26.08.09 currently available for public comment) that identify Maryland's transition from the original fecal coliform indicator to E. coli and/or enterococci for designated bathing beaches and Use I primary contact recreational waters. Until these regulations have completed their review and are adopted into COMAR, for 303(d) listing purposes, MDE must currently assess Use I waters using fecal coliform.

Draft water quality standards are located at the following:
http://www.mde.state.md.us/assets/document/propwqs_ctbb012304.pdf

7. The report narrative should include a section describing the listing methodology for nutrients impairments.

   MDE Response: There is no current nutrient listing methodology or nutrient criteria for non-tidal waters. Nutrient impairment listings were identified during the 1996 303(d) List. These early listings were anecdotal and based entirely upon land use practices, particularly on the amount of agricultural activity in the basin.

8. Regarding Section 3.6, the proposed change to a 300 ug/kg threshold for mercury fish tissue concentrations should be accompanied by a technical justification such as a revised risk assessment.

   MDE Response: MDE's adoption of the EPA's 300 ug/kg threshold for mercury is consistent with recent information received from a statewide survey (collaborative – MDE/JHU/CBF) of licensed recreational fishermen. The results of the survey indicate that over 65 % of the respondents (~400) eat 2 or less meals per month, and approximately 35% eat more than 2 meals per month. The decision to use 235 ug/kg for the MeHg TMDLs was not based on actual consumption data, rather it was based on anecdotal information that MD fisher-people and their families consume more than the nationwide average of 2 meals per month. The findings of the MDE survey are consistent with a survey performed in Delaware (contact Rick Greene for more info) that demonstrated that the consumption rate was 17.8 g/day. The Department feels that the survey findings justify the adoption of EPA's proposed threshold. The Department will still use the 235 ug/kg threshold as a TMDL goal, and the difference between the 300 and 235 will be a margin of safety. From this point forward, listing decisions will be made based on the basis of tissue concentrations greater than 300 ug/kg.

9. In Section 3.7, we suggest mentioning that the water quality analyses were subject to a review and comment period similar to the TMDLs.

   MDE Response: Corrected

10. Regarding Section 3.8.2, is MDE prepared to discuss the results of the summer 2003 metals sampling activities in Baltimore Harbor and resulting changes to the listings, or will this be included in the next 303(d) list? This may also affect the listing methodology in Section 8.5 in terms of using the Effects Range - Median (ER-M) for certain metals such as chromium. In any event, it is worth mentioning the efforts that

MDE is undertaking to re-examine the metals impairments in Baltimore Harbor, associated listing methodology, and source(s) of toxicity.

MDE Response: This will be included in the next 303 d list as all pertinent information was received after the data cutoff date for the current listing cycle. We will be making adjustments to the listing methodologies in the interim on as-needed basis. All stakeholders (Baltimore Harbor Stakeholders Advisory Group) are aware of the circumstances and have been kept informed on new studies to be started in the Harbor.

11. Regarding the footnote to Table 12, we suggest that the discussion at the end of Section 5.7 be referenced in its place.

    MDE Response: Corrected

12. In section 5.1, the Final 303(d) list should mention the Memorandum of Understanding between EPA and MDE and provide a short status of the proposed revisions thereto, since this relates to TMDL prioritization and completion.

    MDE Response: Corrected (see section 5.4).

13. In Section 8.6 of Appendix C, include a cross reference to Section 3.8.3 since the sediment listings have been combined into one sediment category in the current 303(d) list.

    MDE Response: corrected

14. Section 5.6 contains a typographical error: replace 6.5.1-6.5.6 with 5.6.1 - 5.6.6.

    MDE Response: corrected

15. In the text, please clarify the purpose of the last column "Impairment Addressed in 2 years" and the associated check box that is shown throughout the Integrated List. For example, does it mean that the water is expected to achieve water quality standards within two years or that MDE will establish a TMDL (or implement other controls) within two years? To the extent that this comprises the list of TMDLs to be established, Maryland should distinguish (in the text or in this column) the TMDLs to be *established* from TMDLs to be *initiated*, but not completed, in this timeframe.

    MDE Response: The check box indicates that MDE will initiate some action with regard to TMDL development. This may mean that additional monitoring is being conducted in these watersheds to begin TMDL development or it may mean that a TMDL will be completed in this timeframe. However, MDE cannot say with certainty what TMDLs will be established over the next two years due to all nature of issues, from technical complexities involved with TMDL development to fluctuations

in the monitoring resources available to collect data for model development, calibration and validation.

16. In Sections 8.1.3.1.1 and 8.1.3.1.2 of Appendix C, Rule 2 should state "equal to" rather than "equal than" and Rule 3 should list or provide examples of the other cases.

    MDE Response: corrected

17. Include a brief discussion in the text of how interstate waters are considered and any coordination between Maryland and the upstream /downstream/adjoining states. Also, please comment (e.g., in Section 5.0) on how the listings or TMDLs for common waters are factored into the priority ranking.

    MDE Response: Corrected page 3 and 48

The following comments are specific to the Integrated List:

18. For Category 2, an 8-digit basin with an identified impairment (i.e., listed in Category 4 or 5) should not be co-listed in Category 2, nor a sub-basin thereof. Specific examples follow:

Basin Name	**Basin Code**	**Comment**
Deer Creek	02120202	The Category 2 listings should be at the 12-digit level since sub-basins are listed in Category 5 for biological impairments
MDE Response: Maryland's biocriteria listing methodology supports this listing approach. Ten or greater MBSS samples were collected in the 8-digit Deer Creek watershed whereby a mean IBI and confidence interval could be calculated at the 8-digit scale. This analysis supported an unimpaired biological status at the 8-digit level (mean BIBI of 4.17, lower CI = 3.99 and upper CI = 4.36; mean FIBI of 3.75, lower CI = 3.44 and upper CI = 4.05). Only two individual 12-digit basins in this larger watershed did not fully support biological uses. The first watershed, DEER CR UT2 (12-digit basin 021202020330), had a BIBI score of 4.56 and a FIBI score of 1.89, thus failing due to a depauperate fish community. The second 12-digit watershed, SOUTH STIRRUP RUN (12-digit basin 021202020326), had a BIBI score of 2.78 and a FIBI score of 3.89 and scored an indeterminate benthic score. However, the majority of the IBI scores at other locations in the Deer Creek watershed were so high that these two 12-digit watershed impairments had essentially no effect on the 8-digit mean.		
Furnace Bay / Principio Creek	021306090380	Sub-basin is listed in Category 2 (based on Round 2 MBSS data) and listed in Category 5 (based on Round 1). It appears that the Category 5 listing should have been superceded.
MDE Response: Corrected		
Loch Raven Reservoir	02130805	8-digit basin listed in Category 5
Prettyboy Reservoir	02130806	8-digit basin listed in Category 5
Liberty Reservoir	02130907	8-digit basin listed in Category 5
South Branch Patapsco	02130908	8-digit basin listed in Category 5

Middle Patuxent River	02131106	8-digit basin listed in Category 5
Zekiah Swamp	02140108	8-digit basin listed in Category 5
Potomac River MontCo	02140202	8-digit basin listed in Category 5
Potomac River WashCo	02140501	8-digit basin listed in Category 5
Conococheague Creek	02140504	8-digit basin listed in Category 5
Youghiogheny River	05020201	8-digit basin listed in Category 5
Casselman River	05020204	8-digit basin listed in Category 5

MDE Response: The inverse of the first response in this table also holds true. What this means is that when 10 or more samples are collected in an 8-digit watershed, the mean IBI and confidence intervals calculated from these samples can result in a failing score at the 8-digit watershed level. However, individual 12-digit basins in this watershed may have high IBI scores that are lost within the 8-digit mean. In the case of Loch Raven Reservoir, for example, GRAVE RUN UT1 (12-digit basin 021308060315) has a BIBI of 4.33 and FIBI of 3.67. However, the 8-digit mean BIBI was 3.46, with a lower CI or 3.19 and an upper CI of 3.73 (fewer than 10 fish samples were collected so a mean FIBI could not be calculated for the 8-digit watershed).

19. Please clarify why the Double Pipe Creek (02140304) bacteria listing was moved from Category 3 in 2002 to Category 5 in 2004.

    MDE Response: Corrected.

20. As a followup to Comment 2 above, there are several waters that were listed in Category 5 in 2002 (based on Round 1 MBSS data) but were moved to Category 3 (based on Round 2 data) in the current list. It is not clear why, in these cases, an "indeterminate" conclusion based on Round 2 data supercedes an "impaired" conclusion based on the Round 1 data, particularly where the 8-digit watersheds are listed in Category 5 for other impairments:

Basin Name	**Sub-Basin Name**	**Sub-basin Code**
Patapsco River Lower North Branch	Stoney Run	021309061011
Liberty Reservoir	UT 1	021309071056
	Middle Run	021309071056
Lower Monocacy River	Bennet Creek	021403020225
	Church Branch	021403020228
	Woodville Branch	021403020235
Brighton Dam	UT to Tridelphia Reservoir	021311080966
Potomac River Middle Tidal	UT Pomonkey Creek	021401020791
St. Clements Bay	UT St. Clements Creek	021401050731
Zekiah Swamp	Zekiah Swamp Run	021401080769
Potomac River MontCo	Watts Branch & UT	021402020846

MDE Response: See response to EPA comment number 2.

21. EPA's guidance states that waters may be placed in Category 4b for "other controls" only if the water will achieve water quality standards within a reasonable time. For the Category 4b ICS listings (Baltimore Harbor and Lower / Middle Patuxent River) and the PEPCO oil spill, please comment on any progress of these mitigation efforts since the publication of the 2002 303(d) list. A copy of the ICS's or permits identifying the specific control measures and compliance schedules that would address these listings should be provided to EPA as documentation.

    MDE Response: The Lower/Middle Patuxent River remains on Category 4b as a result of the 2000 oil spill. Six new monitoring areas were recently hailed as clean of oil in 2004. However, the majority of the original impaired sub-sections remain impacted with oil. The NRDA clean up effort identifies these areas as cost ineffective to pursue clean-up efforts with the understanding that more environmental harm would likely occur as a result of such activity.

    The Individual Control Strategy permits for Baltimore Harbor have been developed and are attached to the comment-response document as requested.

22. In Category 4a, the Cherry Creek TMDL (05020203) was approved by EPA on 11/26/03.

    MDE Response: Corrected.

23. The following comments pertain to former or current Category 5 listings:

Basin Name	**Basin Code**	**Comment**
Newport Bay	02130105	The DO/nutrient listing was moved from Category 5 to Category 4a because a TMDL was completed, but a TMDL for Marshall Creek is not yet completed
MDE Response: Corrected		
Little Gunpowder Falls	02130804	1996 listing for metals should appear in Category 6 based on water quality analysis submitted on 12/24/02 and approved by EPA on 2/20/03.
MDE Response: Corrected		
Anacostia River (tidal)	02140205	2002 listing for bacteria moved to Category 6 in 2004 with statement in Section 3.8.4 that tidal listing was in error. Please review the basis for both the tidal and non-tidal listings and list in Category 5 as appropriate.
MDE Response: Corrected – see response to Earth Justice comment #5.		
Conococheague Creek	02140504	Indicates 2002 listing for pH but was not in Category 5 of 2002 list; spelling error (q vs. g).
MDE Response: Corrected		
Youghiogheny River / Hoyes Run	050202010001	2002 listing for biological impairment not shown in 2004 Category 5 or elsewhere in Integrated List

MDE Response: This same 12-digit basin has been moved to category 3a because of new Round 2 data (BIBI scores of 3.00 and 3.29 with the lower bound CI for both scores below three).		
Casselman River / UT Piney Creek	050202040038	2002 listing for biological impairment, shown in 2004 in Category 6 as indeterminate but not shown in Category 3a
MDE Response: Corrected.		

24. The following listings should appear in Category 6 as delisted and removed accordingly from Category 5, based on water quality analyses (WQA) submitted to EPA:

Basin Name	Impairment	WQA Submittal Date	EPA Approval Date
Langford Creek (tidal)	Nutrients	12/16/02	1/22/03
Lake Bernard Frank	Nutrients	12/16/02	1/22/03
St. Marys Lake	Nutrients	12/20/02	2/27/03
Lake Needwood	Nutrients	12/20/02	1/22/03
Jones Falls	Zinc	12/24/02	2/20/03
Broadford Lake	Mercury	1/8/04	Pending
Piney Run Reservoir	Sediment	11/4/03	12/18/03

MDE Response: Corrected.

Patapsco Riverkeeper, 8950 Route 108, Suite 221, Columbia, MD 21045
Lee Walker Oxenham, Executive Dir. Tel. 410-992-7092, FAX 410-992-7093

Comments:

1. Patapsco Riverkeeper is concerned that the public was not adequately informed of the extent of the changes, both substantive and methodological, that have been incorporated in the Draft 2004 303(d) List.

   MDE Response: The changesto the latest version of the 303 (d) is the result of an extensive public review process that began with the development of the 2002 303(d) List. Both the 2002 and 2004 lists were subject to more than 45 days of public review (greater than the minimum 30 days required under the Administrative Procedures Act), which included several public meetings throughout the state. The review period was advertised in the Washington Post, Baltimore Sun, mailed to over 200 public interest groups and posted on the MDE web page. All proposed changes in 2004 were also noted in the Executive Summary portion of the report so that stakeholders could easily review changes without reviewing the full document.

2. We believe that the public interest would have been better served if at the outset of the Public Comment period MDE had made clear the fact that the 303(d) Impaired Waters List was being transformed into an Integrated Assessment of Water Quality (

i.e. a single document combining the Department of Natural Resources' 305(b) Report with MDE's 303(d) list). Such notification would have facilitated MDE's effort to attract greater public participation in its regional meetings, would have resulted in more informed debate at those meetings, and could have served as an effective platform from which to educate the public about key water quality issues.

MDE Response: Starting with the 2002 List and consistent with current EPA guidance, MDE has made major steps towards publishing a more integrated List of water quality conditions in Maryland, including impaired, unimpaired and indeterminate waters. This is not a new initiative. In fact, the changes made in the structure and format of the 2002 List were much more substantial than anything done in 2004. The only difference with the current 2004 List is that it will be submitted in tandem with the 305(b) in April. Furthermore, the 305(b) report will cross-reference the 303(d) List more extensively than in the past.

3. The changes incorporated in this document are far-reaching and will change the way in which impairment for a series of contaminants will be measured and evaluated. For example, methodological changes are proposed for: mercury, toxics, bacteria, sediments, dissolved oxygen and sewage. New statistical and methodological measures are being instituted, and impaired waterways (e.g. Baltimore Harbor) are losing the protections afforded by the traditional TMDL process, as they are recategorized and effectively downgraded in the proposed 2004 List. The lack of priority status for mercury, toxics, and drinking water sources are also sources of concern.

   MDE Response: It is true that the changes we have incorporated during the last two 303(d) public review processes (2002-2004) are "far-reaching". But they are also widely accepted as vast improvements by most stakeholders, including the EPA. Now we have sound methodologies for interpretation of standards, and a firm basis for implementation of pollution abatement initiatives for Baltimore Harbor, as well as other waters of the state. No State waters have been arbitrarily "downgraded" without a rigorous analysis of new supporting data and the priority for most toxics and metals listings remains high.

4. In as much as the process of integrating the two lists was not complete when the document was released for Public Comment – and MDE intends to submit a fully integrated List to the EPA in April 2004 - we ask that you extend the Public Comment period for another two weeks, to January 31, 2004.

   MDE Response: An extension of the public review was granted until January 31, 2004.

5. MDE's introduction of the proposed multi-tiered categorization system incorporated in the 2004 List will not advance the effort to address the impairment of Maryland's waters, or to protect the quality of those waters threatened by pollution. It does not incorporate the effective and comprehensive pollution control program Congress

envisaged and mandated in the Clean Water Act – a program that would clean up fouled waters; protect our streams, rivers, lakes and shorelines; and ensure fishable, swimmable waters for the nation's citizens. In fact this multi-tiered system represents a significant step in the wrong direction, backwards. The new listing criteria will restrict the development and implementation of TMDLs to a small subset of the true number of impaired waterbodies, thereby limiting the scope of the TMDL program and its ability to fulfill its designated mandate, and thereby subverting the Clean Water Act's goal of restoring the nation's waters to a fishable, swimmable standard.

MDE Response: To reiterate, the multi-tiered categorization system (or six-category integrated list) is promoted and endorsed by EPA in their most current listing guidance to states. This approach is far more comprehensive than prior lists (pre-2002) because it establishes the water quality status of **all** State waters. Prior lists only focused on impaired waters. The current List goes further in identifying waters where additional data (either quantity or quality) is needed to make an impairment determination. Moreover, clean and partially clean waters are also established which helps the State to track any future degradation in these watersheds.

These mechanisms allow the State to make more informed watershed management decisions and prioritize waters of concern. They also allow the State to more effectively target limited monitoring, TMDL development and implementation resources.

6. Listing decisions, and the criteria on which they are based, are critically important to the effort to clean up our nation's and our state's waterways. Whether a waterbody is listed or delisted, or is placed in category 3 or 5, determines whether or not its sources of impairment will be addressed. Under the currently proposed schema, only those waterbodies listed in the single category designated as "requiring a TMDL" (Category 5) will be eligible for the protections afforded by the TMDL program. Simply stated: if the waterbodies are not listed in Category 5, they will not be addressed, no TMDL will be devised, and they will not be cleaned up.

   MDE Response: This is incorrect. Water bodies in category 3 of the List will require the State to collect additional monitoring data to determine impairment status. Waters in category 1 and 2 constitute the higher quality waters in the State and will be protected under antidegradation regulations in Maryland's Water Quality Standards.

7. It is irrefutable that NPDES permits, best management practices, and secondary treatment have not succeeded in restoring Baltimore's Harbor to applicable water quality standards, i.e. Baltimore Harbor remains impaired for chromium, zinc, lead, mercury, chlordane and a host of other toxics. By definition, that means that TMDLs are required for Baltimore Harbor for these contaminants.

MDE Response: You are correct – TMDLs are required for the Harbor. Several years ago, MDE convened a Stakeholders Advisory Group to assist the Department in its TMDL development efforts for the Harbor. Currently, two separate models (for

toxics and eutrophication) are being calibrated and validated for use in TMDL development. A TMDL document is also currently being drafted for these impairments. Furthermore, MDE is initiating further monitoring in the Harbor to identify sediment sources of toxicity, including whole sediment and pore water analyses.

8. Given the serious health impacts methylmercury poses to public health via bioaccumulation through the food chain, and in view of the fact that MDE's draft 2004 TMDLs provide no implementation provisions for Maryland's sources of mercury pollution, Patapsco Riverkeeper calls on the EPA to reject MDE's mercury TMDLs and insist on the addition of new sections detailing the action that will be taken at the state level to address this serious health problem.

   There are ten NPDES permit holders currently discharging mercury into the Patapsco watershed, but MDE is taking no action to curtail their mercury releases, or even to require that they institute monitoring regimes as part of its draft 2004 mercury TMDLs. The overwhelming majority of mercury in the Patapsco watershed comes from atmospheric sources, many of which are beyond Maryland's borders and therefore out of its control. But this does not release MDE from the obligation to take action on the sources of mercury that are located within the state's boundaries. This conclusion is reinforced by recent studies showing that the sources of atmospheric deposition nearest a waterbody produce disproportionate impacts to that waterbody precisely because of their proximity.

   MDE Response: The Patapsco Riverkeeper has apparently chosen MDE's solicitation of public commentary concerning Maryland's Draft 2004 303[d] List of Water Quality Limited Segments as a venue in which to comment upon previous Total Maximum Daily Load (TMDL) analyses. The reviewer notes that the TMDL development process is subsequent to and distinct from the 303[d] listing process, and each TMDL is accorded its own public review and comment period. The gist of the comment appears to center around TMDLs for mercury in fish tissue Maryland developed in 2002 (Liberty Reservoir in particular). The waterways in question were included on Maryland's Draft 2002 303[d] List of Water Quality Limited Segments. These listings were addressed (*i.e.*, TMDLs developed) with urgency, due to the potential public health impact of the impairing substance. Separate public comment periods were conducted at the appropriate time for the 2002 Draft 2002 303[d] list, and for each TMDL developed.

   The commentor apparently believes that Maryland has taken inadequate steps to facilitate a reasonable assurance of implementation for these TMDLs, specifically the TMDL for the Liberty Reservoir. The U.S. EPA began working with a consultant (ICF Consulting, San Rafael, CA) during Spring 2003 to refine the air deposition model (Regional Modeling System for Aerosols and Deposition, or 'REMSAD') that was used to estimate the current atmospheric deposition of mercury. The consultant's work is nearly complete, and the refined model is in the process of being installed and run at EPA Region 3 offices in Philadelphia. EPA has withheld approval for the

Liberty TMDL, and has formally requested MDE to delay production of two TMDLs previously scheduled for completion in March 2004. MDE will incorporate the output from the refined REMSAD model into the TMDLs. EPA and MDE believe that the improvements to the model will facilitate a more refined TMDL analysis with respect to source assessment, mercury deposition rates, and reasonable assurance of implementation.

9. MDE claims that the far-reaching changes incorporated during the last two review periods are "widely accepted as vast improvements by most stakeholders, including the EPA." One needs must ask, which stakeholders? Could these be the industries that continue to use Maryland's rivers and streams as a free waste disposal conveyance system rather than bearing the costs of their production processes, including the costs of safe disposal of their industrial by-products and wastes? Also, it is not surprising that the EPA approves the multi-tiered categorization system incorporated in this document, since the basic idea was introduced by the EPA in its recent, proposed revision of the TMDL rule. It should be noted that EPA's proposed TMDL revision provoked 34,000 comments, overwhelmingly opposed to its adoption, and has been withdrawn from consideration.

   Patapsco Riverkeeper calls upon MDE: to reject the listing criteria and categorization changes incorporated in the 2004 303(d) List; to separate the 305(b) and 303(d) lists, thereby enabling each to perform its designated purpose; to reinstate the original TMDL process as mandated by Congress; to ensure the clean-up of Baltimore Harbor's toxics, both past and current; and to provide the necessary regulatory requirements for the actual implementation of the critically needed reduction of mercury emissions through the TMDL process.

   MDE Response: MDE has read these recommendations and will take them under advisement. The State looks forward to working with local Riverkeepers and other stakeholders to improve the 303(d) program specifically and Maryland's water quality in general.

F. Paul Calamita, McGuireWoods LLP, Maryland Association of Municipal Wastewater Agencies, Inc.

Comments:

1. Where appropriate water quality monitoring data indicate a substantial impairment of a water body, which is not attributable to a readily controllable source, MDE should segregate such waters in a subcategory of Category 5 (waters needing TMDLs) to indicate that designated use reviews will be conducted for these waters to ensure the uses and associated WQS are attainable before a TMDL is developed. Otherwise, we risk wasting everyone's time, money, and energy developing TMDLs for waters with use designations that are not attainable. The recent approach to dealing with Chesapeake Bay waters is an example of this approach (address attainability and

appropriate standards before developing TMDLs). We recommend that MDE clarify in the listing methodology how it will classify waters with substantial use attainability questions.

MDE Response: MDE addresses the impairment at the initiation of the TMDL with additional analysis or monitoring to better determine where the problem lies. The state often cannot make that determination with data available at the time of listing. Any changes of this nature may have to occur post-implementation when best available technology and adaptive management is deemed insufficient in attaining Water Quality Standards.

Duane A. Wilding, Severn River Association, greenengr@comcast.net

Comments:

1. Recognizing the significant degradation of living resources and water quality, we question the assigned rating of "fully supports" for the Severn River shown on page 29 of the report. We feel that a rating of "not supporting" is more appropriate for the level of degradation that exists in the Severn.

   MDE Response: The fully supports rating is based on one benthic station near the mouth of the Severn River (Station SEVMH **)** that passes the criteria for benthic IBI interpretation as set forth in Section 3.2. Upon collection analysis of additional estuarine benthic data, MDE may have better information to reassess the tidal Severn.

2. We request that the Severn River be given a high priority by MDE for completing a TMDL assessment. The management and control of nutrients is needed if we are to improve the water quality of the river.

   MDE Response: A watershed's priority is not the sole determinant of TMDL development. Many considerations, ranging from programmatic, technical, financial and political must be considered in addition to the established priority. However, MDE generally prioritizes human health related impairments over aquatic life use support and the Severn Nutrient impairment does not fit into this category.

3. The SRA has sponsored a program for over 15 years to monitor the bacteria levels at community swimming beaches. The monitoring has shown that the bacteria counts are very high and frequently exceed the State fecal coliform standard of 200 MPN/100 ml listed on p. 30 of the report. Our data consistently show many locations that do not meet this standard and therefore request that the Severn River be listed as not meeting acceptable State standards to allow swimming and other recreational uses.

   MDE Response: The Severn River has been listed in Category 5 of the 303(d) List for bacterial contamination since 1996. In 2004 and on the basis of additional

monitoring data, MDE also added Mill, Whitehall and Meredith Creeks in the Severn River drainage to better target the specific sources of bacterial contamination.

4. Last year we discontinued monitoring for fecal coliform and now test for the bacteria enterococci. It was our understanding that this is a more accurate measurement of the likelihood of becoming ill after swimming and had replaced fecal coliform as the preferred indicator bacteria for bathing beaches. We therefore question why enterococci are not discussed in the report and why only a fecal coliform standard is listed.

   MDE Response: MDE currently has new regulations out for public review (See draft beach regulations COMAR 26.08.09 currently available for public comment) that identify Maryland's transition from the original fecal coliform indicator to E. coli and/or enterococci for designated bathing beaches and Use I primary contact recreational waters. Until these regulations have completed their review and are adopted into COMAR, for 303(d) listing purposes MDE must currently assess Use I waters using fecal coliform. See link below:
   http://www.mde.state.md.us/assets/document/propwqs_ctbb012304.pdf

James Stuhltrager, Mid-Atlantic Environmental Law Center, Widener University
James.Stuhltrager@law.widener.edu 302-477-2182

Comments:

1. MDE is to be commended on the timely availability of the draft 2004 303(d) List in accordance with Clean Water Act ("CWA") section 303(d) requirements. Furthermore, MDE's decision to follow EPA's *Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act,* (TMDL-01-03, July 2003) makes the draft 303(d) List clear, comprehensible, and readily useable by members of the public who are concerned with clean water.

2. Our review of the draft 2004 List revealed a number of waters that are omitted as summarized on the attached table. Specifically, there are 10 waterbodies that were listed on Sublist 5 of the 2002 303(d) List but are not identified on the draft 2004 List. No information is provided regarding any established delisting criteria applicable to these waterbodies. Furthermore, there are 12 waterbodies that reportedly had TMDLs submitted but have not yet been approved by the Environmental Protection Agency. MDE must either identify these waters as impaired in accordance with the CWA or demonstrate these waters now meet standards.

Impairments included on 2002 Integrated List but missing from Draft 2004 List

Basin Name	Subbasin Name/ Waterbody/Type	Impairment Category or Substance	**MDE Response**
Patuxent River lower	Trent Hall Creek	Fecal Coliform	Still listed as WASHINGTON, PERSIMON CREEKS AND TRENT HALL CR sub basin 021311010884 on part 5 as tidal shell fish area
Patuxent River lower	Town Creek	Fecal coliform	Still listed on part 5 sub basin 021311010872, Tidal Shellfish Area
Patuxent River lower	Solomons Island Harbor	Fecal Coliform	Still listed on part 5 sub basin 021311010873, Tidal Shellfish Area
Patuxent River lower	Buzzard Island Creek	**Biological**	Non tidal section 021311010882 already listed on part 5 for biology
Patuxent River lower	Un Trib to Summerville Cr	Biological	Non tidal section 021311010894 listed on part 5 for biology
Patuxent River lower	Fowler's Mill Br	Biological	Non tidal section 021311010902 already listed on part 5 for biology
Wills Creek	Wills Cr (mouth to PA line)	Fecal Coliform	Non tidal section 02141003 already listed on part 5 for fecal coliform
Wills Creek	Braddock Run (mouth to La Vale)	Fecal Coliform	Non-tidal section 02141003 already listed on part 5 for fecal coliform
Upper North Branch Potomac River	Lostland Run	**Biological**	Non tidal sections 021410050046 and 021410050047 already listed on part 5 for biological impairment
Upper North Branch Potomac River	Non-Tidal	pH – acid mine drainage	Already listed

Water bodies included on 2002 Integrated List but missing from Draft 2004 List TMDLs reportedly submitted but not yet approved by USEPA		
Basin Name	**Subbasin Name/Waterbody/Type**	**Impairment Category or Substance**
Newport Bay	Absecon Channel South	Dissolved Oxygen, High pH, Nutrients
MDE Response: Corrected. Newport Bay moved back into Cateogry 5 since other portions of the watershed still require a TMDL.		
Lower Choptank River	UT La Trappe Creek	Biological Oxygen Demand, Phosphrous
MDE Response: Moved to part 4a because a TMDL was approved by EPA on 9/16/03.		
Tuckahoe Creek	Impoundment	Methylmercury – fish tissue
MDE Response: TMDL submitted to EPA on 12/31/02		
Southeast Creek	Tidal	Nutrients
MDE Response: Moved to part 4a because a TMDL was approved by EPA on 9/16/03.		
Loch Raven Reservoir	Impoundment	Methylmercury – fish tissue
MDE Response: TMDL submitted to EPA on 12/21/02		
Prettyboy Reservoir	Impoundment	Methylmercury – fish tissue
MDE Response: TMDL submitted to EPA on 12/21/02		
Liberty Reservoir	Impoundment	Methylmercury – fish tissue
MDE Response: TMDL submitted to EPA on 12/27/02		
Patuxent River lower	Lake Lariat	Methylmercury – fish tissue
MDE Response: TMDL submitted to EPA on 12/24/02		
Savage River	Impoundment	Methylmercury – fish tissue
MDE Response: TMDL submitted to EPA on 12/24/02		
Deep Creek Lake	Impoundment	Methylmercury – fish tissue
MDE Response: TMDL submitted to EPA on 12/31/02		
Deep Creek Lake	Non-Tidal	pH
MDE Response: TMDL approved by EPA on 11/26/03		
Casselman River	Big Piney Reservoir	Methylmercury – fish tissue
MDE Response: TMDL submitted to EPA on 12/31/02		