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

FEB 0 8 2011

Mr. Scott Mandirola, Director
Division of Water and Waste Management
West Virginia Department of Environmental Protection
601 57th Street SE
Charleston, West Virginia 25304-2345

Dear ~~Mr.~~ Scott Mandirola:

Thank you for the West Virginia Department of Environmental Protection's (WVDEP) final submission on October 4, 2010 of its identification of waters under Section 303(d) of the Clean Water Act (2010 Section 303(d) List).

The U.S. Environmental Protection Agency Region III (EPA) has reviewed the submission and supporting documentation and, pursuant to Section 303(d) of the Act, 33 U.S.C. §1313(d), hereby approves West Virginia's 2010 Section 303(d) List of water quality limited segments still requiring a Total Maximum Daily Load (TMDL). The enclosed narrative provides an explanation of the basis for EPA's approval.

Thank you again for this submission. If you or your staff has any questions, please feel free to contact Mr. Larry Merrill, at (215) 814-5452 or Ms. Cheryl Atkinson, at (215) 814-3392 for assistance.

Sincerely,

Jon M. Capacasa, Director
Water Protection Division

Enclosure

cc: Patrick Campbell, WVDEP DWWM
David Montali, WVDEP DWWM

# West Virginia's 2010 Section 303(d) Approval Rationale

## Introduction

EPA has conducted a complete review of West Virginia's 2010 Section 303(d) List and supporting documentation and information. Based on this review, EPA has determined that West Virginia's list of water quality limited segments (WQLSs) still requiring Total Maximum Daily Loads (TMDLs) meets the requirements of Section 303(d) of the Clean Water Act (CWA or the Act) and EPA's implementing regulations. Therefore, by this order, EPA hereby approves West Virginia's 2010 Section 303(d) list. The statutory and regulatory requirements, and EPA's review of West Virginia's compliance with each requirement, are described in detail below.

## Statutory and Regulatory Background

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

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

EPA regulations provide that states do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act; (2) more stringent effluent limitations required by state or local authority; and (3) other pollution control requirements required by state, local, or Federal authority. See 40 CFR 130.7(b)(1).

West Virginia developed an Integrated Report which identifies the assessment status of all of West Virginia's waters combining EPA's Section 303(d) and 305(b) requirements. The Integrated Report compartmentalized the waters of West Virginia into five distinct categories. All stream segments or assessment units fall into one of the following categories:

- Category 1 - Fully supporting all designated uses.
- Category 2 - Fully supporting some designated uses, but insufficient or no information exists to assess the other designated uses.
- Category 3 - Insufficient or no information exists to determine if any of the uses are being met.

- Category 4 - Waters that are impaired or threatened but do not need a Total Maximum Daily Load (TMDL).

    - Category 4a - waters that already have an approved TMDL but are still not meeting standards.
    - Category 4b - waters that have other control mechanisms in place which are reasonably expected to return the water to meeting designated uses.

    - Category 4c - waters that have been determined to be impaired by pollution or other natural factors.

- Category 5 - Waters that have been assessed as impaired and are expected to need a TMDL.

West Virginia's Section 303(d) list of impaired waters is in Category 5 of West Virginia's 2010 Integrated Report. West Virginia also provided the 2010 Section 303(d) list in the same format as the 2008 Section 303(d) list consisting of the 303(d) list of impaired waters and six supplemental tables that track previously listed waters. The format of the 2010 Section 303(d) list follows the Watershed Management Framework with five hydrologic groups (A-E). Within each hydrologic group, watersheds are arranged alphabetically and impaired waterbodies are listed alphabetically within their appropriate watershed. The information that follows each impaired stream includes the stream code, the affected water quality criteria, the source of the impairment (where known), the impaired size (or, by default, the entire length), the reach description, the projected timing of TMDL development and whether or not the stream was on the 2010 list.

Six supplemental tables were provided to track previously listed waters that are not present on the 2010 Section 303(d) list.

"Supplemental Table A - Previously Listed Waters - No TMDL Develop - 2010" is a list of previously listed waters which have been reevaluated and determined not to be impaired and, therefore, not in need of a TMDL. Causes for revision of the impairment status include recent water quality data demonstrating improved water quality condition, revision to the water quality criteria associated with the previous listing, or a modification of the listing methodology. Decisions regarding the need for TMDL development were made in accordance with the requirements of 40 CFR 130.7(b)(1) and the state's listing criteria. In the Integrated Report, these waters have been moved from Category 5 to Category 1, 2, 3, or 4, as appropriate.

"Supplemental Table B - Waters with TMDLs Developed" is a list of previously listed impaired waters for which a TMDL has been developed and approved by EPA. Waters included in this supplement have had a TMDL developed, but water quality improvements are not yet complete and/or documented. Since the Section 303(d) list is a list of water quality limited segments still requiring TMDLs (see 40 C.F.R. 130.7(b)), EPA's Integrated Water Quality Monitoring and Assessment Report Guidance recommends classification of such waters in a category separate from the 303(d) list. WVDEP developed this supplemental table to track previously listed impaired waters for which TMDLs have been developed. In the Integrated Report, these waters have been listed in Category 4a which includes waters that already have an approved TMDL but are not meeting standards.

"Supplemental Table C - Water Quality Improvements" is a list of previously listed impaired waters with improved water quality due to TMDL implementation or pre-TMDL stream restoration work that resulted in delisting. These waters are included in Category 1 (meeting all uses), provided that impairments for other uses or pollutants are not present.

"Supplemental Table D - Impaired Waters - No TMDL Development Needed" is a list of impaired waters for which either other control mechanisms are in place to control pollutants or the water is impaired by pollution (i.e., flow alterations caused by mining). These are the same waters contained in Category 4b and 4c, respectively.

"Supplemental Table E - Total Aluminum TMDLs Developed" is a list of previously listed impaired waters for which a total aluminum TMDL has been developed and established by EPA. Due to the criteria change from total aluminum to dissolved aluminum, West Virginia placed total aluminum TMDLs onto a separate table from Supplemental Table B. All waters contained on Supplemental Tables B and E are included on Category 4a of the Integrated Report.

"Supplemental Table F – New Listings for 2010" is a list of impaired waters that were not previously included on the 2008 Section 303(d) list.

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

In developing Section 303(d) lists, states are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the state's most recent Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate nonattainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to EPA. See 40 CFR 130.7(b)(5). In addition to these minimum categories, states are required to consider any other data and information that is existing and readily available. EPA's 1991 Guidance for Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available. See Guidance for Water Quality-Based Decisions: The TMDL Process, EPA Office of Water, Appendix C (1991) (EPA's 1991 Guidance). While states are required to evaluate all existing and readily available water quality-related data and information, states may make reasonable decisions to rely or not rely on particular data or information in determining whether to list particular waters.

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

Virginia's *2010 Integrated Water Quality and Assessment Report* identified the state's assessment methodology and its use of data.

***Priority Ranking***

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

**Analysis of West Virginia's Submission**

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

EPA has reviewed West Virginia's submission, and has concluded that West Virginia developed its 2010 Section 303(d) list in compliance with Section 303(d) of the Act and 40 CFR 130.7. EPA's review is based on its analysis of whether West Virginia reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

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

West Virginia's 2010 Section 303(d) list was developed using all existing and readily available data. In West Virginia, the WVDEP's Division of Water and Waste Management (DWWM) is responsible for the collection and compilation of this information. In preparation for the 303(d) listing process, WVDEP sought water quality information from various state and Federal agencies, colleges and universities, and private individuals, businesses and organizations. News releases and public notices were published in state newspapers and letters were sent to state and Federal agencies known by WVDEP to be generators of water quality data.

West Virginia's 303(d) list is based largely on the data collection and assessment that underlies the 305(b) report of the state's water quality. WVDEP generated the majority of available surface water quality data through the Watershed Assessment Program (WAP) performed within the Watershed Management Framework cycle. Biological data sources included WV Stream Condition Index (WVSCI) scores collected during WVDEP's WAP. Additional data was obtained from state and Federal agencies, local environmental agencies, colleges, and universities, citizen monitoring groups, and private firms. A complete list of data

providers is shown on Table 4 of the Integrated Report. West Virginia considered all data and information regarding 130.7(b)(5) categories, which is the minimum required by Federal regulations.

Agency personnel possessing varying areas of expertise compared instream data to applicable water quality criteria and determined the impairment status of state waters. The basis for 303(d) listing decisions relates to the West Virginia water quality standards. In general terms, if water quality standards are exceeded, a waterbody is considered impaired, placed on the 303(d) list, and scheduled for TMDL development. More specifically, a waterbody is considered impaired when it does not attain the designated use assigned to it by applicable water quality standards. Use attainment is determined by comparison of the instream values of various water quality parameters to applicable numeric or narrative criteria. The West Virginia water quality standards are codified at 46 CSR 1 - *Legislative Rule of the Environmental Quality Board - Requirements Governing Water Quality Standards*, and at 60 CSR 5 - *Legislative Rule of the Department of Environmental Protection - Antidegradation Implementation Procedures*. The 46 CSR 1 version used to develop the 2010 Section 303(d) list went into effect July 1, 2008. All water quality standards contained in this version have received the EPA's approval and are currently considered effective for CWA purposes.

In addition, West Virginia provided its rationale for not relying on particular existing and readily available water quality-related data and information as a basis for listing waters. West Virginia DWWM staff evaluated data from internal and external sources to ensure that collection and analytical methods, quality assurance/quality control and method detection levels were consistent with approved procedures. All qualified data from available sources were used in the decision making process. For stream water quality assessments, the DEP generally used water quality data generated between July 2004 and June 2009. EPA finds West Virginia's screening protocol and criteria described in its 2010 Section 303(d) listing rationale narrative to be a reasonable rationale in determining the usage of outside data, as waters listed as "impaired" should be based on scientifically valid data.

West Virginia released the Draft 2010 Section 303(d) List for public comment on March 15, 2010 through May 19, 2010. Notices of the availability of the Draft 2010 Section 303(d) List were placed in newspapers statewide and promoted via e-mail and the internet. These notices included information on where to obtain the documents and where to send comments. In March 2010, WVDEP provided EPA with its 303(d) Decision Database which records listing decisions for all waterbodies. After review of the 303(d) Decision Database, EPA provided comments to WVDEP on May 18, 2010, requesting clarification of individual waterbody listings and if any data and/or waters were screened out or not used to make listing impairment decisions based on single pollution events. West Virginia received written comments from several entities including EPA. WVDEP evaluated all comments received and prepared a responsiveness summary detailing WVDEP's actions regarding these comments. EPA concludes that WVDEP properly considered and responded to relevant public comments.

EPA received WVDEP's final 2010 Integrated Water Quality Monitoring and Assessment Report package combining the Section 303(d) list and Section 305(b) report on October 06, 2010. This package included: (1) a listing rationale narrative describing: (a) an overview of the process for development of the 2010 Integrated Report; (b) the assessment

methodologies for the following kinds of data: numerical water quality criteria data including fecal coliform and pH, biological impairment, and fish consumption advisories; and (c) an explanation of the data evaluated in the preparation of the list; (2) a summary of comments and responses that could affect the listing of waters; (3) the 303(d) list with six supplemental tables tracking previously listed waters; (4) spreadsheets containing information on stream segments in each of the five assessment categories; (5) WVDEP's 303(d) Decision Database which records final listing decisions; and (6) all comment letters received by WVDEP during the public comment period.

West Virginia received comments questioning listing decisions for particular waterbodies. Where commentors advocated for or against particular impairment listings, West Virginia responded to the comments by providing relevant waterbody-specific analyses used in the listing decision, and where appropriate, making changes to the Section 303(d) list.

EPA recognizes that WVDEP received comments questioning its reliance on biological assessments and the West Virginia Stream Condition Index to identify waters for inclusion on the Section 303(d) list. In identifying water quality limited segments for inclusion on the Section 303(d) list, states must evaluate attainment with water quality standards established under Section 303(c) of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements, based on consideration of all existing and readily available information, including but not limited to assessment information such as chemistry, toxicity, or ecological assessment. 40 C.F.R. 130.7(b)(3) and (b)(5). Assessment information is particularly important for determining whether a waterbody is achieving its designated use (such as supporting aquatic life) or narrative criteria.

With respect to the various types of assessment information, EPA recommends that the states apply a policy of independent application to determine whether a waterbody is achieving applicable water quality standards. This policy addresses three types of assessment information: chemistry, toxicity testing results, and ecological assessment. Each of these three methods can provide a valid assessment of non-attainment of a designated use and each independently can provide conclusive evidence of nonattainment without confirmation with a second method. EPA, Final Policy on Biological Assessments and Criteria (June 19, 1991); see also 48 Fed. Reg. 51,400, 51,402 (Nov. 8, 1983) (noting that biological monitoring is one method of testing compliance with narrative criteria); cf. 33 U.S.C. 1313(c)(2)(B) (nothing in Section 303 should be construed "to limit or delay the use of effluent limitations or other permit conditions based on or involving biological monitoring or assessment methods ...."). Biological assessments can provide compelling evidence of water quality impairment because they directly measure the aquatic community's response to pollutants or stressors, and they can help provide an ecologically based assessment of the compliance status of a waterbody. Memorandum from Geoffrey H. Grubbs, Director, Assessment and Watershed Protection Division, EPA, to Water Management Division Directors, Regional TMDL Coordinators, Regions I-X re Guidance for 1994 Section 303(d) Lists (Nov. 26, 1993).

Since 2002, WVDEP has used the West Virginia Stream Condition Index (WVSCI) to evaluate whether streams are meeting the narrative criteria contained in West Virginia's Water Quality Standards. WVSCI is a family-level multi-metric index and was developed in coordination with EPA in 2000. Since publication of WVSCI in 2000, the data and science have

progressed. The number of available reference sites has increased from 107 to 394. In addition, the state of the science has moved from family-level analysis to genus-level analysis. EPA used genus-level analysis as part of its Wadeable Streams Assessment (EPA 841-B-06-002 December 2006), the first-ever statistically valid survey of biological condition of small streams in the United States. Genus-level data are also used by biological monitoring programs in surrounding states, including Kentucky, Pennsylvania, Maryland and Ohio.

To date, EPA has approved WVDEP's continued use of WVSCI as its tool for assessing whether streams are achieving the narrative water quality criterion. EPA's approvals have, in part, been based upon WVDEP's recognition that there has been significant development of the science and data since WVSCI was published in 2000 and upon the fact that WVDEP has taken steps to update its assessment tool, such as its request to EPA for assistance in developing the Genus Level Index of Most Probably Stream Status (GLIMPSS).

EPA notes that West Virginia has been a regional leader in monitoring its waters and has collected 10 years' worth of genus-level data. Because a final version of GLIMPSS became available during summer of 2010., and thus after the public comment period for the 2010 Section 303(d) list, EPA is approving the Section 2010 list based upon use of the family-level WVSCI analysis. However, EPA expects that West Virginia will match the high quality of its monitoring program by moving to a genus-level analysis for its 2012 Section 303(d) List.

WVDEP has indicated that there are a number of steps necessary for its use of a genus-level analysis, including external peer review of GLIMPSS. GLIMPSS is a product that was developed jointly by EPA and WVDEP. EPA also would like to see GLIMPSS undergo external peer review to further support EPA's use of GLIMPSS for purposes other than the Section 303(d) list. To that end, EPA intends to submit GLIMPSS for external peer review in the coming months. EPA's effort will be consistent with EPA policies and guidance regarding peer review of scientific products. EPA encourages WVDEP to participate with EPA in this external peer review effort as a first step toward use of a genus-level analysis, and we will be in contact with WVDEP to coordinate WVDEP's participation. EPA notes that, while it is EPA's strong preference that WVDEP work with EPA to jointly submit GLIMPSS for external peer review, EPA intends to proceed with external peer review to support EPA's use of GLIMPSS.

In addition to the foregoing, we note that WVDEP continues to consider 60.7-68 as a "gray zone" to account for uncertainty. EPA notes that questions have been raised regarding the statistical validity of the gray zone in light of the way that WVSCI is scored. For the 2010 Section 303(d) List, EPA notes that WVDEP has correctly treated WVSCI scores within the gray zone as not reflecting instream water quality that fully supports the narrative water quality criterion. Currently, streams with biological scores in the "gray zone" may be in Categories 2, 3, 5 or on the TMDL completed list depending on additional water quality data associated with the stream. At EPA's request, a list of streams scoring in the "gray zone", along with its current assessment category, was provided and is attached to this rationale. EPA accepts this approach for purposes of the 2010 Section 303(d) List and encourages WVDEP to address statistical validity concerns prior to any future use of a gray zone.

EPA has reviewed West Virginia's description of the data and information it considered, its methodology for identifying waters, and additional information provided in response to

comments raised by EPA. EPA concludes that the state properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 CFR 130.7(b)(5).

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

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

West Virginia's 2010 Section 303(d) list was combined with the 305(b) report to form what is now referred to as the Integrated Report. Therefore, the 305(b) report is no longer a stand alone document and the data that would have gone into development of such a "stand alone" report was used in the production of the Integrated Report. In West Virginia, the biennial water quality assessment is conducted by the WVDEP DWWM. The Integrated Report incorporates the data and evaluations obtained from state and Federal agencies, local environmental agencies, colleges, and universities, citizen monitoring groups, and private firms. A complete list of data providers is shown on Table 4 of the Integrated Report. West Virginia relied heavily on ORSANCO's 305(b) report and use support information when making listing decisions for the Ohio River and the tributaries for which data was available. West Virginia's Integrated Report compartmentalized the waters of West Virginia into five distinct categories which were described above. Waters are defined as being either supporting of all uses, supporting of all uses for which assessment occurred, lacking data for a determination, impaired but not requiring a TMDL, or impaired and requiring a TMDL.

Waters in Category 5, impaired and requiring a TMDL, are those placed on West Virginia's 2010 Section 303(d) list. These waters are found as not attaining their designated uses based on monitoring data. The methodology used to determine non-attainment of designated uses is described in West Virginia's 2010 Integrated Water Quality and Assessment Report. West Virginia also provided the Section 303(d) list with five supplemental tables that track previously listed waters.

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

West Virginia relied primarily on water quality monitoring data described above in identifying impaired segments. However, certain waters are included on the 2010 Section 303(d) list based upon modeling results associated with TMDL development. TMDL modeling of the baseline condition for all such waters indicates that pollutant reductions from existing sources are needed to ensure compliance with water quality criteria. In the majority of cases, water quality monitoring and predictive modeling reach consistent conclusions regarding the impairment status of waterbodies. In other cases, monitoring data may not be available, may not have been obtained at critical conditions or locations, or may not reflect the conditions that would exist if point sources were discharging at their permit limits. Where predictive modeling indicated that discharges in accordance with existing permit limits would cause violation of water quality criteria, the designated use of the water quality may be classified as "threatened," thereby

subjecting it to 303(d) listing and TMDL development pursuant to Section 130.7(b)(5).

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

West Virginia solicited data from entities outside of the WVDEP. Several waters were placed on West Virginia's 2010 Section 303(d) list as a result of data collected by agencies other than WVDEP as identified in Table 4 of the Integrated Report.

West Virginia encouraged comment on its draft lists, and the submission of water quality data, each time the list was public noticed. West Virginia received additional data and information as comments to their Public Notice Draft 2010 Section 303(d) list. In the listing rationale, West Virginia summarized the comments and any changes that were made to the proposed list based on additional data and information.

4. **Section 130.7(b)(5)(iv), Waters identified by West Virginia as impaired or threatened in a nonpoint assessment submitted to EPA under section 319 of the CWA or in any updates of the assessment.**

West Virginia properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with Section 303(d) and EPA guidance. Section 303(d) lists are to include all WQLSs still needing TMDLs, regardless of whether the source of impairment is a point and/or nonpoint source. EPA's long-standing interpretation is that Section 303(d) applies to waters impacted by point and/or nonpoint sources. In Pronsolino v. Marcus, the District Court for the Northern District of California held that Section 303(d) of the CWA authorizes EPA to identify and establish TMDLs for waters impaired by nonpoint sources. Pronsolino et al. V. Marcus et al., 91 F.Supp.2d 1337, 1347 (N.D.Ca. 2000), aff'd, 291 F.3d 1123 (9th Cir. 2002), petition for cert. filed, 71 U.S.L.W. 3531 (Feb. 6, 2003) (No. 02-1186). See also EPA's 1991 Guidance and National Clarifying Guidance for 1998 Section 303(d) Lists, Aug. 27, 1997.

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

EPA has reviewed West Virginia's description of the data, information, and methodology used by West Virginia in the development of their 2010 Section 303(d) list. This includes supplemental data and information that was submitted in response to EPA's comments. Table 4 of the Integrated Report lists sources of data utilized during the listing process. After this review, EPA has concluded that West Virginia has properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 CFR 130.7(b)(5).

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

West Virginia provided its rationale for not relying on particular existing and readily available water quality-related data and information as a basis for listing waters. West Virginia DWWM staff evaluated data from internal and external sources to ensure that collection and analytical methods, quality assurance/quality control and method detection levels were consistent with approved procedures. All qualified data from available sources were used in the decision making process. EPA finds West Virginia's screening protocol and criteria described in its 2010 Integrated Report rationale narrative to be a reasonable rationale in determining the usage of outside data, as waters listed as "impaired" should be based on scientifically valid data.

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

West Virginia has indicated, through "Supplemental Table A", those waterbodies that were included in previous 303(d) lists but are now delisted from the 2010 Section 303(d) list. West Virginia has demonstrated, to EPA's satisfaction, its rationale for these delistings. According to the regulations at 40 CFR 130.7(b), a water may be delisted for the following reasons: 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 section 130.7(b)(5); or changes in conditions (i.e., new control equipment, elimination of discharges).

WVDEP delisted waterbodies due to new water quality analyses demonstrating compliance with water quality standards, revisions to water quality criteria associated with the previous listing, or a modification of the listing methodology. One of the conditions outlined includes more recent or accurate data showing compliance with applicable water quality standards. For the 2010 Section 303(d) list, West Virginia submitted various sets of data demonstrating that certain waters either recovered to the point that the applicable water quality standards have been attained, or were listed in error and are currently not impaired. For other delistings, reassessments revealed that some waters were still impaired, but that the pollutants or impairment lengths had changed. These delisted water-pollutant combinations were reassessed using methodologies at least as stringent as the methodology that originally placed the water on the list.

For each segment proposed for removal from the 2010 Section 303(d) list, West Virginia provided EPA with sufficient documentation as justification. Such data included benthic macroinvertebrate data, chemical data, compliance data, and other forms of documentation. EPA reviewed this data and approves the delisting determinations listed in "Supplemental Table A". Decisions regarding the need for TMDL development were made in accordance with the requirements of 40 CFR 130.7(b)(1) and the state's listing criteria.

Regarding the delisting of Crab Orchard Run, which was not in the draft Supplemental Table A but added to the final Supplemental Table A, West Virginia provided the following additional explanation for the delisting. The noncomparability of biological samples for Crab Orchard Run results from a predominance of one organism that is not necessarily indicative of impairment (gammarus). That is EPA understands that for Crab Orchard, the data used for

(previous) listing has been deemed inappropriate based on karst geology or the need for a limestone IBI. In general, if a biological assessment previously used to identify a water as "impaired" is later deemed noncomparable, then there are multiple possibilities for the IR categorization of the stream. As stated above water placed in Supplemental Table A are moved from Category 5 to Category 1, 2, 3, or 4, as appropriate. But in the case of Crab Orchard, the stream is still impaired for another parameter (iron), therefore the stream is still placed in Category 5.

WVDEP has also identified on "Supplemental Table B" those waterbodies where a TMDL has been completed. Consequently, these waterbodies are not included on the 303(d) list.

**E. Any other reasonable information requested by the Regional Administrator described in Section 130.7(b)(6)(iv).**

During the review of West Virginia's 2010 Section 303(d) list, EPA Region III staff requested and received additional information from West Virginia.

- **Justification for differences between EPA recommendations and WVDEP's final 2010 Section 303(d) list.** In comment letters dated May 18, 2010, EPA requested clarification and amendments to West Virginia's 2010 Section 303(d) list. West Virginia evaluated EPA's comments and provided explanations. Where appropriate, the list was revised to resolve the discrepancy.

- **Justification for delisting segments.** West Virginia delisted a number of segments listed on the 2010 list which were provided on "Supplemental Table A - Previously Listed Waters - No TMDL Developed". Where waters were delisted, the delisting was consistent with the CWA and implementing regulations.

- **Clarification of changes to previously listed waters.** EPA requested that West Virginia clarify changes in segment length and stream codes to previously listed waters. This information was provided to EPA to justify changes made from previous listing cycles.

EPA concludes that West Virginia has addressed all additional information EPA Region III requested of the state during the review of the 2010 Section 303(d) list.

**F. Identification of the pollutants causing or expected to cause a violation of the applicable water quality standards described in Section 130.7(b)(4).**

West Virginia identified the pollutants that were causing or expected to cause a violation of the applicable water quality standards for every listed segment where the identity of the pollutant was known. West Virginia included those pollutants for which a numeric water quality criterion was violated, such as fecal coliform. For violations of a narrative criterion, pollutants were rarely identified. Therefore, many waters were listed for violations of the narrative biological standard without identifying a cause since no cause was determined at the time of listing. West Virginia anticipates that the cause of biological impairments will be determined during TMDL development.

## G. Priority Ranking and Targeting

Within the 2010 Section 303(d) list, West Virginia has provided TMDL development dates and a detailed discussion of both the priority ranking and schedule development in its 2010 Section 303(d) list rationale. This discussion includes a description of West Virginia's five-year Watershed Management Framework cycle for its five hydrologic groups (A-E). EPA reviewed West Virginia's priority ranking of listed waters for TMDL development, and concludes that West Virginia properly took into account the severity of pollution and the uses to be made of such waters. Scheduling, however, takes into account additional relevant factors, such as programmatic considerations (i.e., efficient allocation of resources, Watershed Management Framework cycles, and coordination with other programs or states) and technical considerations (i.e., data availability, problem complexity, availability of technical tools). Another factor West Virginia considered in prioritizing its listed waters is the schedule in the consent decree resolving Ohio Valley Environmental Coalition, Inc., et al. v. Carol Browner, et al., No. 2:95-0529 (S.D.W.VA.) entered on July 9, 1997, which establishes dates for EPA to ensure TMDL development for all waters and pollutants listed on West Virginia's 1996 Section 303(d) list.

In addition, EPA reviewed West Virginia's identification of WQLSs targeted for TMDL development in the next three years, and concludes that the targeted waters are appropriate for TMDL development in this timeframe. High priority has been placed on these stream segments. For other impairments where the timing of TMDL development is less certain, multiple year entries were indicated that represent the opportunity for TMDL development per the Watershed Management Framework cycle.

Although West Virginia's projected TMDL development dates do not strictly follow EPA's pace guidance of completion with eight to thirteen years since initial listing, West Virginia's TMDL development plans appear consistent with the guidance in that West Virginia plans to develop TMDLs for approximately 100 impaired waters per year and attempts to simultaneously develop TMDLs for all known impairments. The 2010 Section 303(d) list identifies 6 lakes and 1091 stream segments. Given West Virginia's TMDL development rate of approximately 100 waters per year, it is likely that West Virginia will comply with EPA's pace guidance.

### *Coordination with the U.S. Fish and Wildlife Service*

During West Virginia's public comment period, EPA sent a copy of West Virginia's Draft 2010 Section 303(d) list in electronic correspondence on March 29, 2010, to the U.S. Fish and Wildlife Service (FWS). EPA requested comments from FWS regarding the draft list. No comments from FWS were received.