

ENCLOSURE 1
Review of West Virginia's 2014 Section 303(d) List and Decision Rationale

1. Introduction

Clean Water Act (CWA or Act) Section 303(d), 33 U.S.C. § 1313(d), (Section 303(d)) requires each state to identify those waters within its jurisdiction for which effluent limitations required by CWA Section 301(b)(1)(A) and (B), 33 U.S.C. § 1311(b)(1)(A) and (B), are not stringent enough to implement any applicable water quality standard, to establish a priority ranking for such waters, and to submit a listing of such waters (Section 303(d) list) to EPA for approval or disapproval.

On April 13, 2015, EPA received from the West Virginia Department of Environmental Protection (WVDEP) West Virginia's 2014 Section 303(d) list of water quality limited segments (WQLSs) (West Virginia's 2014 303(d) list), as part of the Integrated Report submitted by WVDEP (submission) to meet the requirements of CWA Sections 303(d), 305(b), and 314; 33 U.S.C. § §1313(d), 1315(b), and 1324. EPA has completed its review of WVDEP's submission. As a result of this review, EPA is partially approving and partially disapproving West Virginia's 2014 Section 303(d) list.

This Enclosure 1 describes the basis for: (1) EPA's decision to partially approve West Virginia's 2014 Section 303(d) list to the extent that it identifies 1,157 WQLSs (1,142 streams and 15 lakes) requiring a Total Maximum Daily Load (TMDL); (2) EPA's decision to partially disapprove West Virginia's 2014 Section 303(d) list to the extent that it omits certain WQLSs; and (3) EPA's identification of waters not meeting the state's water quality standards. Enclosure 2 will describe the basis for EPA's proposed additions to West Virginia's 303(d) list. The list of waters that EPA proposes to add to West Virginia's 2014 Section 303(d) list is in Enclosure 3.

2. Statutory and Regulatory Background

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

EPA's implementing regulations require states to biennially submit a list identifying water quality limited segments still requiring a TMDL. See 40 CFR 130.7(b)(1). 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; or (3) other pollution control requirements required by state, local, or Federal authority. See 40 CFR 130.7(b)(1).

A. Existing and Readily Available Water Quality-Related Data and Information

In developing Section 303(d) lists, states are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, (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). 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 as to whether and how particular data or information is used 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 list or not list waters. Such documentation should include 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; (3) a rationale for any decision to not use existing and readily available data discussed in 130.7(b)(5); and (4) any other reasonable information requested by the Region.

B. 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, the regulations require that 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. In accordance with longstanding EPA guidance, States also 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.

3. Analysis of WVDEP's Submission

EPA has reviewed the State's submission and has concluded that the State developed its Section 303(d) list in partial compliance with Section 303(d) of the CWA and 40 CFR 130.7. Because the EPA has determined that WVDEP's submission does not include all waters that meet Section 303(d) listing requirements, EPA is partially approving and partially disapproving West Virginia's list submission and proposing to add waters to the final 2014 list. EPA's action is based on its analysis of whether West Virginia's 2014 Section 303(d) list complied with the applicable CWA requirements discussed above. As a result of its review, EPA has determined the following:

- (1) WVDEP has appropriately identified 1,157 WQLSs (1,142 streams and 15 lakes) requiring TMDLs on its 2014 Section 303(d) list. EPA approves inclusion of these waters on West Virginia's 2014 Section 303(d) list.
- (2) WVDEP failed to evaluate all existing and readily available data and information for certain water bodies of the State when developing West Virginia's 2014 Section 303(d) list. Specifically, based on EPA's review of data assembled by WVDEP in its "Decision Database" that was provided with the submission of WVDEP's final 2014 Integrated Report, WVDEP failed to evaluate existing and readily available information related to West Virginia's applicable narrative water quality criteria (W. Va. CSR § 47-2-3.2(e) & (i)) as applied to aquatic life.

A. Description of WVDEP's Submission

EPA received WVDEP's final 2014 Integrated Water Quality Monitoring and Assessment Report package combining the Section 303(d) list and Section 305(b) report on April 13, 2015. This package included: (1) a listing rationale narrative describing: (a) an overview of the process for development of the 2014 Integrated Report; (b) the assessment methodologies for the following kinds of data: numerical water quality criteria, biological impairment, fish consumption advisories and excess filamentous algae; and (c) an explanation of the data evaluated in the preparation of the list; (2) a summary of responses to comment letters received by WVDEP during the public comment period that could affect the listing of waters; (3) the 303(d) list with five supplemental tables tracking previously listed waters and one supplemental table tracking newly listed waters; (4) spreadsheets containing information on stream segments in each of the five assessment categories; (5) WVDEP's 303(d) Decision Database, an Access database that contains relevant water quality monitoring data including but not limited to biological assessment data and the various lists of waters that comprise WVDEP's Integrated Report; (6) a compilation of comment letters received by WVDEP during the public comment period; and (7) a spreadsheet of changes from the draft 2014 Section 303(d) list.

WVDEP 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 contained in Category 5 of West Virginia's 2014 Integrated Report. WVDEP identified 1,157 WQLSs in Category 5 and utilized the same format as its 2012 Section 303(d) list, consisting of the 303(d) list of impaired waters and six supplemental tables. The format of the 2014 Section 303(d) list follows WVDEP's Watershed Management Framework with five hydrologic groups (A-E). Within each hydrologic group, watersheds are arranged alphabetically and WQLSs are listed alphabetically by stream code within their appropriate watershed. The information that follows each WQLS 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 2012 list.

Five supplemental tables were provided to track previously listed waters that are not present on the 2014 Section 303(d) list. An additional supplemental table was provided to track newly listed waters.

"Supplemental Table A - Previously Listed Waters - No TMDL Develop - 2014" 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.

“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 WQLSs 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, WVDEP 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 2014” is a list of impaired waters that were not previously included on the 2012 Section 303(d) list.

B. Description of the methodology used by WVDEP to develop West Virginia’s 2014 Section 303(d) list

In preparation for the 303(d) listing process, the WVDEP’s Division of Water and Waste Management (DWWM) is responsible for the collection and compilation of water quality-related data and information. 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.

WVDEP used West Virginia’s 2012 Section 303(d) list (including waters added by EPA on September 30, 2013) as a starting point for development of its 2014 Section 303(d) list. Except for waters identified in Supplemental Tables A, B, or C, waters identified on West Virginia’s 2012 Section 303(d) list (either by WVDEP or added by EPA) were retained on the 2014 Section 303(d) list. WVDEP issued a call for data to be used for purposes of the 2014

Section 303(d) list in which WVDEP sought data generated through June 30, 2013. WVDEP generated the majority of available surface water quality data through the Watershed Assessment Program (WAP) performed within the Watershed Management Framework cycle. 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.

WVDEP 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 not being met, a waterbody is considered impaired, placed on the 303(d) list, and scheduled for TMDL development. The West Virginia water quality standards are codified at 47 CSR 2 - *Requirements Governing Water Quality Standards*, and at 60 CSR 5 - *Antidegradation Implementation Procedures*. For stream water quality assessments, the DEP generally used water quality data generated and analyzed between July 1, 2008 – June 30, 2013 from the State's 32 major watersheds.

WVDEP released the Draft 2014 Section 303(d) list for public comment on June 12, 2014 through July 11, 2014. Notices of the availability of the Draft 2014 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. On June 13, 2014 WVDEP provided EPA with its Section 303(d) Decision Database which records listing decisions for all waterbodies. After review of the Section 303(d) Decision Database, EPA provided comments to WVDEP on July 11, 2014. 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. In addition, West Virginia responded to each of EPA's comments in their final IR submission letter. With the exception of comments related to biological listings, West Virginia provided adequate response to comments.

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

Pursuant to 40 CFR 130.7(b)(5), states must assemble and evaluate all existing and readily available water quality-related data and information to develop their Section 303(d) lists, including but not limited to, such data and information for the following categories of waters.

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

West Virginia’s 2014 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 standalone document and the data that would have gone into development of such a “stand alone” report was used for the Integrated Report. While WVDEP assembled all existing and readily available information for purposes of the Section 305(b) portion of the Integrated Report, WVDEP did not evaluate certain biological data reported in the Integrated Report for the purpose of identifying WQLSs on its 2014 Section 303(d) list. A further discussion is found in Section 4 below.

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

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). WVDEP states that much of the list is based upon limited amounts of water quality monitoring data that may or may not accurately portray the extent of impairment. WVDEP uses the TMDL development process to refine identification of the extent of impairment.

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.

WVDEP solicited data from entities outside of the WVDEP. WVDEP also encourages volunteer data collection as part of West Virginia Save Our Streams program. Outside data sources other than WVDEP are identified in Table 4 of the Integrated Report. WVDEP provided an explanation of how it considers external data.

WVDEP encourages comment on its draft lists, and the submission of water quality data, each time a list is public noticed. WVDEP received additional data and information as comments to their Public Notice Draft 2014 Section 303(d) list. WVDEP summarized the comments and any changes that were made to the proposed list based on additional data and information. While WVDEP made some changes based upon public comment, WVDEP did not evaluate certain biological data identified by public comment for the purpose of identifying WQLSs. A further discussion is found in Section 4.

4. Section 130.7(b)(5)(iv), Waters identified by WVDEP as impaired or

threatened in a nonpoint assessment submitted to EPA under section 319 of the CWA or in any updates of the assessment.

WVDEP properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with Section 303(d) and EPA guidance. Section 303(d) lists must 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), cert. denied, 539 U.S. 926 (2003). 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 WVDEP's description of the data, information, and methodology used by WVDEP in the development of their 2014 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. As set forth in more detail in Section 4 below, WVDEP assembled all existing and readily available data. However, WVDEP did not evaluate certain existing and readily available information related to West Virginia's applicable narrative water quality criteria set forth at W. Va. CSR § 47-2-3.2(e) & (i).

D. 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).

The regulations allow States to determine not to use certain data, and states have availed themselves of this regulation, generally on technical grounds, such as the absence of quality control or inconsistent sampling methods. The decision not to use particular data, however, is distinguished from the requirement in 40 CFR 130.7(b)(5) that states assemble and evaluate all existing and readily available data. As set forth in Section 4 below, WVDEP did not evaluate certain existing and readily available genus level biological data relevant to water quality for the purpose of identifying WQLSs on its 2014 Section 303(d) list.

Apart from the data discussed in Section 4, WVDEP 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. EPA finds WVDEP's screening protocol and criteria described in its 2014 Integrated Report rationale narrative to be a reasonable rationale in determining the usage of outside data, with the exception of WVDEP's decision not to evaluate certain existing and readily available data related to West Virginia's applicable narrative water quality criteria set forth at W. Va. CSR § 47-2-3.2(e) & (i) as described further in Section 4 below.

E. WVDEP's rationale for delisting waterbodies from the previous 303(d) list.

WVDEP has identified in "Supplemental Table A" waterbodies that were included in previous 303(d) lists but removed from the 2014 Section 303(d) list. With the exception of the fifteen biologically impaired waters from supplemental Table A EPA has included in Enclosure 3, WVDEP has demonstrated, to EPA's satisfaction, its rationale for these delistings. 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).

In its final 2014 Section 303(d) list, 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, listing previously in error, or, in the case of two streams, a biological listing in which the sample was collected in a manner not consistent with the underlying methodology.

For each previously listed segment removed from the 2014 Section 303(d) list, WVDEP provided EPA with a basis for removing the previously listed segment. EPA reviewed WVDEP's rationale, and approves all but fifteen of the delisting determinations listed in "Supplemental Table A". The fifteen proposed delistings not approved by EPA are discussed in Sections 4, 5 and 6.

WVDEP has also identified on "Supplemental Table B" those waterbodies where a TMDL has been completed. EPA agrees with WVDEP's decision not to include these waterbodies on the 2014 Section 303(d) list.

WVDEP's "Supplemental Table C" proposed to delist 56 new waters due to water quality improvement sufficient to achieve applicable water quality standards. WVDEP provided EPA with water quality data demonstrating attainment with applicable water quality standards. Data were included in a copy of WVDEP's Integrated Report Decision Database that was supplied to EPA as part of the WVDEP's Final Integrated Report package. EPA agrees with the delistings proposed in "Supplemental Table C."

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

WVDEP provided additional information when requested by EPA Region III staff.

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

Where the impairing pollutants are known and are the subject of West Virginia numeric water quality criteria, WVDEP identified the pollutants that were causing or expected to cause a

violation of the applicable water quality standards. For WQLSs identified on West Virginia's 2014 Section 303(d) list as violating West Virginia's narrative water quality criteria as applied to aquatic life, the impairing pollutant frequently is unknown because the impairment is identified by a direct measure of the biological community. Therefore, the Section 303(d) list identifies many WQLSs based upon failure to achieve the narrative water quality criteria as applied to aquatic life without identifying the cause of the impairment. WVDEP anticipates that the cause of biological impairments will be determined during TMDL development. However, EPA notes that in certain instances where work associated with TMDL development in the watershed has identified the cause of the impairment and the WQLS was retained on the list, the cause of the impairment is known. EPA notes the cause is identified in the publicly available TMDL reports developed for the relevant watersheds. Where the cause of the impairment has been identified, EPA expects the 303(d) listing should identify the pollutants causing or expected to cause violations of the applicable water quality standards. 40 C.F.R. § 130.7(b)(4).

H. Priority Ranking and Targeting

Within the 2014 Section 303(d) list, WVDEP has provided TMDL development dates and a detailed discussion of both the priority ranking and schedule development in its 2014 Section 303(d) list rationale. This discussion includes a description of WVDEP's five-year Watershed Management Framework cycle for its five hydrologic groups (A-E). In addition, WVDEP has identified WQLSs targeted for TMDL development in the next two years. 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.

The State's TMDL development schedule as described in the 2014 Section 303(d) list also 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).

EPA agrees that, as to the WQLSs included on the 2014 Section 303(d) list, WVDEP satisfied the requirement to submit a priority ranking.

4. Basis for EPA's Decision to Add Waters to West Virginia's 2014 303(d) list

EPA is disapproving in part West Virginia's 2014 Section 303(d) list to the extent that WVDEP omitted WQLSs because it did not evaluate all readily available genus-level macroinvertebrate data and information. EPA is proposing to add 61 WQLSs to West Virginia's 2014 Section 303(d) list. Fifteen of these WQLSs were proposed for delisting by WVDEP in the 2014 IR supplemental Table A. EPA's determination to add WQLSs is based on data assembled by WVDEP. EPA will open a public comment period on these proposed additions to West Virginia's 303(d) list and will, if appropriate, revise the list of added waters following consideration of any comments received. The general basis for EPA's partial disapproval and for EPA's addition of waters is discussed below.

A. Background

West Virginia's narrative water quality criteria (W. Va. CSR § 47-2-3.2(e) & (i)) provide:

3.2. No sewage, industrial wastes or other wastes present in any of the waters of the state shall cause therein or materially contribute to any of the following conditions thereof:

* * *

3.2.e. Materials in concentrations which are harmful, hazardous or toxic to man, animal or aquatic life;

* * *

[and] 3.2.i. Any other condition, including radiological exposure, which adversely alters the integrity of the waters of the State including wetlands; no significant adverse impact to the chemical, physical, hydrologic, or biological components of aquatic ecosystems shall be allowed.

WVDEP historically has considered the health of the macroinvertebrate community as its primary means of directly measuring whether the narrative water quality criteria as applied to aquatic life are being satisfied.¹ Beginning with its 2002 Section 303(d) list and with the exception of its 2012 Section 303(d) list, WVDEP has utilized the West Virginia Stream Condition Index (WVSCI) as its methodology for assessing whether streams are achieving West Virginia's narrative criteria as applied to aquatic life. WVSCI consists of six benthic community metrics combined into a single family-level multimetric index. It was developed by Tetra Tech, Inc. in 2000 using WVDEP and EPA data collected from riffle habitats in wadeable streams. Since publication of WVSCI in 2000, however, available biological data and science have progressed significantly. The number of available reference sites has increased, and the state of the science has shifted its focus from family-level analysis to genus-level analysis. EPA (in its National Rivers and Streams Assessments)² and many of the neighboring states (Ohio, Kentucky, Pennsylvania, Maryland) now use a genus-level macroinvertebrate tool to directly measure aquatic life use.

While WVDEP assembled genus-level data, WVDEP did not evaluate that data for purposes of compiling its 2014 Section 303(d) list. By not evaluating genus-level data, important information regarding impairment may be missed. For example, in a recent study, sample identification at the genus level taxonomy demonstrated loss of entire functional feeding groups (Pond, et al. 2014³). Evaluation of genus-level data allows for evaluation of information

¹ West Virginia also assesses ambient levels of various parameters against numeric water quality criteria established to protect aquatic life uses.

² <https://www.epa.gov/national-aquatic-resource-surveys/nrsa>

³ Pond, GJ, ME Passmore, ND Pointon, JK Felbinger, CA Walker, KJG Krock, JB Fulton, and WL Nash. 2014.

on the scraper and shredder guilds. Loss of an entire functional feeding group (at the genus level) indicates ecosystem imbalance and has the potential to undermine support of fish communities in the assessed and downstream reaches. Evaluation of genus-level data is also better suited to detect biological changes due to climate change.

WVDEP has a readily available method for evaluating its genus-level data. At the request of WVDEP, EPA worked with WVDEP to develop the Genus-Level Index of Most Probable Stream Status (GLIMPSS) for West Virginia's waters. GLIMPSS is a more modern, genus-level multimetric index. Additional discussion of GLIMPSS is set forth in Enclosure 2. Under the applicable regulations (40 C.F.R. 130.7(b)(5)), it is incumbent upon WVDEP to evaluate all existing and readily available data. WVDEP currently has many sites that have been sampled and identified using genus-level taxonomy (Pond, et al. 2012⁴) scores calculated. The genus-level data accumulated by WVDEP is existing and readily available and therefore should have been evaluated as part of the Section 303(d) process using appropriate and scientifically sound methodologies.

B. The methodology used by EPA in 2012 was intended for that cycle only and does not provide a basis for not evaluating genus-level data in 2014

In its 2014 Section 303(d) list, WVDEP cited the methodology used by EPA to add waters to West Virginia's 2012 Section 303(d) list as one basis for not evaluating genus-level data. EPA's methodology in connection with its action on West Virginia's 2012 Section 303(d) list expressly was intended for the 2012 list cycle only and does not provide a basis for not evaluating existing and readily available genus-level data in 2014. A brief synopsis of EPA's action on the 2012 Section 303(d) list is presented here.

In 2012, shortly before West Virginia's draft 2012 Section 303(d) list was published for public comment, the West Virginia Legislature enacted SB 562, which added the following language to West Virginia Code § 22-11-7b:

(f) The secretary shall propose rules measuring compliance with the biologic component of West Virginia's narrative water quality standard [which] requires evaluation of the holistic health of the aquatic ecosystem and a determination that the stream: (i) Supports a balanced aquatic community that is diverse in species composition; (ii) contains appropriate trophic levels of fish, in streams that have flows sufficient to support fish populations; and (iii) the aquatic community is composed of benthic invertebrate assemblages sufficient to perform the biological functions necessary to support fish communities within the assessed reach, or, if the assessed reach has insufficient flows to support a fish community, in those downstream reaches where fish are present. The secretary shall propose rules for legislative approval in accordance with the provisions of article three, chapter

Long-term impacts on macroinvertebrates downstream of reclaimed mountaintop mining valley fills in central Appalachia. Environmental Management. DOI 10.1007/s00267-014-0319-6.

⁴ Pond GJ, Bailey JE, Lowman BM, Whitman MJ. 2012. Calibration and validation of a regionally and seasonally stratified macroinvertebrate index for West Virginia wadeable streams. Environ Mon Assess 185: 1515-1540.

twenty-nine-a of this code that implement the provisions of this subsection. Rules promulgated pursuant to this subsection may not establish measurements for biologic components of West Virginia's narrative water quality standards that would establish standards less protective than requirements that exist at the time of enactment of the amendments to this subsection by the Legislature during the 2012 regular session.

WVDEP stated in the narrative portion of its 2012 Section 303(d) list submission that it interprets SB 562 as "a mandate to secure prior Legislative approval of the assessment methodology under which DEP will make impairment decisions pursuant to the narrative criterion at 47 CSR 2-3.2i." Based on that interpretation, WVDEP did not evaluate any biological samples (either at the family or at the genus level) for the purpose of including "new" WQLSs that do not achieve the narrative water quality criteria as applied to aquatic life in the 2012 Section 303(d) list. WVDEP retained on the 2012 Section 303(d) list all biological listings (not identified in Supplemental Tables A, B, or C for other reasons) from the 2010 Section 303(d) list because it considered those listings as identifications of impaired waters using a methodology "that was valid at the time those impairments were determined." This decision by WVDEP prompted EPA to partially disapprove West Virginia's 2012 Section 303(d) list, to undertake an evaluation of new biological data, and to add 248 waters to the list.

As explained more fully in connection with EPA's 2012 action, EPA utilized a slightly modified WVSCI-based framework⁵ to evaluate data for purposes of the 2012 Section 303(d) list. EPA explained at that time that it was using a WVSCI-based framework because WVSCI had been used by WVDEP from 2002-2010. EPA made clear, however, that its decision to use a WVSCI-based framework was intended for the 2012 Section 303(d) list only: "If a new methodology is not in place in time for the 2014 Section 303(d) list, EPA will reconsider the range of existing and readily available information, including available assessment methodologies, at that time. As WVDEP moves forward, EPA recommends that WVDEP incorporate GLIMPSS into its assessment methodology." In its response to comments, EPA further stated: "EPA continues to believe that the Genus Level Index of Most Probable Stream Status (GLIMPSS) improves upon WVSCI and offers a more refined tool for assessing the structure and function of the aquatic ecosystem. EPA encourages WVDEP to incorporate GLIMPSS, which was developed by EPA and WVDEP scientists and has been published in a peer-reviewed journal, as part of any future methodology developed pursuant to SB 562."⁶

C. Evaluation of existing and readily available water quality information

While EPA recognizes that SB 562 instructs WVDEP to develop a new biological assessment methodology, EPA is not bound by such a limitation and therefore does not share the state's rationale for declining to evaluate all existing and readily available data. Neither SB 562

⁵ As explained more fully in EPA's 2012 Section 303(d) list action, EPA did not utilize a "gray zone" historically used by WVDEP because WVDEP's use of the gray zone was not statistically supportable.

⁶ At the time WVDEP was collecting and analyzing data for purposes of its 2012 Section 303(d) list, GLIMPSS had not yet been published in a peer reviewed journal. GLIMPSS was published in a peer-reviewed journal in time for WVDEP's use in connection with the 2014 Section 303(d) list.

nor EPA's use of WVSCI in 2012 supersede federal regulatory instructions to assemble and evaluate all existing and readily available information for the purpose of identifying WQLSs. In view of this, EPA partially disapproves the 2014 Section 303(d) list to the extent it omits waters that would have been included had such data been evaluated and used. EPA's action does not preclude WVDEP from reassessing waters upon adoption of a new scientifically sound methodology.

In the Probabilistic Data Summary of the Section 305(b) portion of its Integrated Report, WVDEP reported results of samples collected and analyzed using both WVSCI, which assesses the benthic macroinvertebrate community at the family level, and the genus-level metric GLIMPSS. West Virginia's 2014 Section 303(d) list contained new biological listings using the same methodology EPA used to add waters to West Virginia's 2012 list (the modified WVSCI). As set forth above, EPA made clear in connection with that action that EPA did not intend the methodology it used in 2012 to be carried forward in lieu of assembling and evaluating existing and readily available genus-level data related to West Virginia's applicable narrative water quality criteria set forth at W. Va. CSR § 47-2-3.2(e) & (i).

It is important to note that EPA's action is limited to its partial disapproval of the omission of certain WQLSs from West Virginia's 2014 Section 303(d) list caused by WVDEP's decision not to evaluate certain existing and readily available genus-level data. It is unnecessary for purposes of this action for EPA to take any position as to whether SB 562 does or does not constitute a change in West Virginia's water quality standards that must be submitted to and approved by EPA before becoming effective for purposes of Federal law. See 33 U.S.C. § 1313(c); 40 C.F.R. § 131.21. In identifying WQLSs for purposes of the Section 303(d) list, WVDEP and EPA must consider the currently applicable water quality standards. See 40 CFR 130.7(b)(3); 131.21. Regardless of whether or not SB 562 or any regulation that may be promulgated as a result of SB 562 ultimately is interpreted as constituting a change in West Virginia's water quality standards, it has not been approved as such by EPA at this time and therefore would not be a currently applicable water quality standard for purposes of federal law. 33 U.S.C. § 1313(c); 40 C.F.R. § 131.21. Thus, for purposes of the Section 303(d) list, existing and readily available information must be evaluated with respect to W. Va. CSR § 47-2-3.2(e) & (i).⁷

It is also important to note that EPA's action should not be considered as pre-judging any future assessment methodology that may be developed by WVDEP pursuant to SB 562. When WVDEP completes its development of an assessment methodology and such methodology is scientifically justified and applied in connection with future Section 303(d) lists, WVDEP is free to re-assess the waters EPA is adding to the 2014 Section 303(d) list. EPA will consider WVDEP's evaluation of all existing and readily available data and information at that time.

5. EPA's List Development Process

⁷ To the extent WVDEP believes it did evaluate the genus-level data, WVDEP did not provide a reasonable explanation for not using that data. 40 CFR 130.7(b)(6)(iii).

As required by 40 CFR 130.7(d)(2), EPA has developed a proposed list of impaired waters, using data provided by WVDEP. EPA's list development process is described in Enclosure 2. The list of waters that EPA proposes to add to West Virginia's Section 303(d) list is in Enclosure 3.

EPA will issue a notice in the Federal Register of our proposed action within 30 days of this disapproval. There will be a 30 day public comment period. Upon completion of the public comment period, EPA will review all comments and make changes to the proposed list accordingly.

EPA began the list development process by retrieving data from WVDEP's "Decision Database," that was provided with the submission of WVDEP's final 2014 Integrated Report. The Decision Database is an Access database that contains relevant water quality monitoring data including but not limited to biological assessment data. The database also includes the various lists of waters that comprise WVDEP's Integrated Report. Because the basis of EPA's partial disapproval of the 2014 Section 303(d) list is WVDEP's failure to evaluate certain information against West Virginia's narrative water quality criteria as applied to aquatic life, EPA limited its evaluation to data that was readily available to and assembled by WVDEP, but had not been available previously in connection with the 2012 or other past approved Section 303(d) lists. It is not EPA's purpose to re-visit evaluations that form part of past approved Section 303(d) lists or to re-visit EPA's approval of those past lists.

When determining whether to add waters to West Virginia's Section 303(d) list, EPA used West Virginia's narrative water quality criteria (W. Va. CSR § 47-2-3.2(e) & (i)) as applied to aquatic life, and EPA applied the GLIMPSS bioassessment methodology. A more detailed explanation of how EPA arrived at its list of waters to be added to West Virginia's Section 303(d) list is provided in Enclosure 2.

6. EPA Will Propose Additional Listings

As discussed above, when EPA disapproves a state's list, EPA must identify waters in the state that do not meet water quality standards. Based on the analyses discussed above, EPA is proposing to add waters to West Virginia's Section 303(d) list. Using the process outlined in Enclosure 2, EPA is proposing to add 61 WQLSs to West Virginia's Section 303(d) list, fifteen of which were proposed for delisting in Integrated Report supplemental Table A. The list of WQLSs EPA is proposing to add to West Virginia's 2014 Section 303(d) list is included in Enclosure 3.

EPA neither approves nor disapproves the states' priority ranking submittal and is under no obligation per 40 CFR 130.7(b)(4) or the CWA to include a priority ranking or schedule for TMDL development to waters added to a states' § 303(d) List. EPA expects WVDEP to incorporate the waters, if any, added by EPA into its next priority ranking. Given the significant technical evaluation necessary for TMDL development and WVDEP's efforts to develop a new assessment methodology that may impact future TMDL endpoints, EPA believes it would be

appropriate for WVDEP to consider its anticipated development of a new methodology when it develops its priority ranking.

7. 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 2014 Section 303(d) list in electronic correspondence on June 16, 2014, to the U.S. Fish and Wildlife Service (FWS). EPA requested comments from FWS regarding the draft list. No comments from FWS were received. EPA will also solicit comments from FWS regarding the waters EPA proposes to add to West Virginia's 2014 303(d) list.