

I. Purpose

Clean Water Act ("CWA") Section 303(d), 33 U.S.C. § 1313(d), ("Section 303(d)") requires states to identify those waters within their 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 to EPA ("Section 303(d) list").

On May 23, 2011, the Oregon Department of Environmental Quality ("ODEQ") submitted Oregon's 2010 Section 303(d) list of water quality limited segments ("WQLSs") ("Oregon's 303(d) list"), to EPA, as part of the Integrated Report submitted by ODEQ ("submission") to meet the requirements of CWA Sections 303(d), 305(b), and 314; 33 U.S.C. § §1313(d), 1315(b), and 1324. *See* ODEQ, 2011b. EPA has completed its review of ODEQ's submission. As a result of this review, EPA is partially approving and partially disapproving Oregon's 303(d) list.

This document describes the basis for: (1) EPA's decision to approve ODEQ's listing of water quality limited segments requiring a Total Maximum Daily Load (TMDL) identified in Oregon's 303(d) list; (2) EPA's decision to disapprove Oregon's decision to not include waters and pollutants on its list of water quality limited segments requiring a TMDL; and (3) EPA's identification of waters not meeting the state's water quality standards and additions to be proposed for Oregon's 303(d) list.

II. Statutory and Regulatory Background for Identification of Water Quality Limited Segments (WQLS) for Inclusion on Section 303(d) Lists

Section 303(d) and EPA regulations, at 40 CFR § 130.7, establish the procedures that States must follow when developing their Section 303(d) lists. EPA has issued various guidance documents to assist states in making the required determinations, including EPA's *Guidance for Water Quality-Based Decisions* *See* EPA, 1991. Section 303(d)(1)(A) directs states, when identifying and prioritizing waters, to take into account the severity of the pollution causing the impairment and the uses to be made of such waters. This 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 federal, state or local authority; and (3) other pollution control requirements required by federal, state, or local authority. *See* 40 CFR 130.7(b)(1).

40 CFR 130.7 (d)(2) requires EPA to either approve or disapprove a state's list. If EPA disapproves a list, EPA must identify waters in the state that do not meet water quality standards. After EPA has identified waters not attaining water quality standards, EPA must issue a public notice seeking comments on the list. After considering public comment, EPA will transmit the final list to the state. *See* 40 CFR 130.7(d)(2).

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

In developing Section 303(d) lists, states are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the state's most recent CWA 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 CWA Section 319 nonpoint assessment submitted to EPA. *See* 40 CFR § 130.7(b)(5). The 1991 EPA Guidance describes categories of water quality-related data and information that may be existing and readily available. *See* EPA, 1991, Appendix C. While states are required to evaluate all existing and readily available water quality-related data and information, states may decide to rely or not rely on particular data or information in determining whether to list particular waters. *See* EPA, 1991.

In addition, 40 CFR § 130.7(b)(6) requires states to include, as part of their submission 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 EPA Regional Administrator. 40 CFR § 130.7(b)(6).

B. Priority Ranking

EPA regulations also codify and interpret the requirement in Section 303(d)(1)(A) 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, taking into account the severity of the pollution and the uses to be made of such waters. Priority ranking must include identification of those WQLSs still requiring TMDLs and targeted for TMDL development in the next two years. 40 CFR 130.7(b)(4). States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and state or national policies and priorities. *See* 57 FR 33040, 33044-33045 (July 24, 1992); and EPA, 1991.

III. Analysis of Oregon's Submission

EPA's review of Oregon's 303(d) list was based on the elements required to be included in state submissions by Section 303(d) and 40 CFR § 130.7. EPA reviewed the methodology used by ODEQ in developing its list and the description of the data and information that ODEQ considered. EPA's review of Oregon's 303(d) list is based on EPA's analysis as to whether ODEQ reasonably considered existing and readily available water quality related data and information and reasonably identified waters required to be listed.

A. Identification of waters, consideration of existing and readily available water quality related data and information and priority ranking

In reviewing ODEQ's submission, EPA has concluded that, with respect to the changes that ODEQ made to its Section 303(d) list, ODEQ developed its Section 303(d) list consistent with the requirements of Section 303(d) and 40 CFR § 130.7. This conclusion is based on EPA's analysis of whether ODEQ reasonably considered existing and readily available water quality related data and information and identified waters required to be listed.

ODEQ's submission included the following supporting documentation: (1) Oregon's Integrated Report ("Integrated Report"), (2) Methodology for Oregon's 2010 Water Quality Report and List of Water Quality Limited Waters ("Oregon's Listing Methodology"); (3) Response to Comments on Final Supplement to Oregon's 2010 Integrated Report and (4) Oregon's TMDL Priorities and Schedule¹. The submission included ODEQ's consideration of data and information related to biological uses, *Enterococci*, algae and aquatic weeds, turbidity and fish consumption advisories due to elevated levels of toxic substances in fish, as well as identification of waters removed from Oregon's previous Section 303(d) list as a result of TMDL development. See ODEQ, 2011b.

In conducting its analysis, EPA reviewed the supporting documentation provided with the ODEQ's submission and also reviewed the on-line version of ODEQ's assessment database, available on the internet at: <http://www.deq.state.or.us/wq/assessment/2010Report.htm>.

1. Oregon's 303(d) list development process

Oregon's 2004/2006 combined Section 303(d) list, which was approved by EPA on February 26, 2007, was the starting point for ODEQ in developing the Oregon's Section 303(d) list for 2010. ODEQ conducted a "call for data," from May 11 through June 11, 2009, in order to allow the public to submit data to ODEQ. Data received during this call for data period, together with data collected directly by ODEQ, were used to develop the Integrated Report and Section 303(d) list. These data were assembled in ODEQ's Laboratory Analytical and Storage Retrieval (LASAR) database, and included data collected from June 1, 1999, through May 31, 2009.

Using these data, ODEQ developed its 2010 Section 303(d) list in two phases. In the first phase, ODEQ assessed coastal recreation waters for *Enterococci*, lakes and streams for aquatic weeds and algae, drinking water supplies impaired due to turbidity, and waters impacted by fish consumption advisories due to elevated levels of toxic substances in fish. ODEQ also removed waters from its Section 303(d) list based on approved TMDLs. The draft 2010 Integrated Report, including the draft 303(d) list, and the listing methodology were published for public comment on November 15, 2010. Oregon provided the list developed for the first phase to EPA on January 31, 2011. See ODEQ, 2011a.

¹ Oregon's complete submission includes the January 31, 2011 submittal and the May 23, 2011. The May 23, 2011 submittal includes all of the information from the January, 31 submittal except the Response to Comments document.

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In the second phase, ODEQ assessed data on biological uses. ODEQ then conducted a public comment period, beginning April 13, 2011, on this updated assessment. ODEQ's final submission contains all of the assessments from the first phase, the supplemental assessment on biological uses from the second phase, and delistings for TMDLs that have been approved by EPA. Oregon provided the list developed for the second phase to EPA on May 23, 2011. *See* ODEQ, 2011b.

2. Public Participation

As discussed, Oregon provided three opportunities for the public input in the listing process: (1) the call for data; (2) the comment period on the first phase list; and (3) the comment period on the final assessment.

Oregon's submission includes an index of people and organizations that provided comments on the draft Integrated Report and listing methodology published for public review in 2010, a summary of the comments received by ODEQ, and ODEQ's response to comments. *See* ODEQ, 2011b. Oregon received fifteen written comment letters and summarized them in the document entitled *Response to Comments on Oregon's Draft 2010 Integrated Report, January 2011*. *See* ODEQ, 2011a.

ODEQ received three comment letters during the public comment period on the 2011 assessment of biological uses, and summarized these in the document entitled *Response to Comments on Final Supplement to Oregon's 2010 Integrated Report, May 2011*. *See* ODEQ, 2011b.

EPA found the State's public participation process and responses to public comments reasonable and in accordance with federal listing requirements.

3. Listing Methodology and Assessments

As part of their list submission, States are required to include the methodology utilized to assess waters of the State for compliance with applicable water quality standards. The Listing Methodology provided by Oregon describes the listing methodology used by Oregon to develop its Section 303(d) list. *See* ODEQ, 2011b.

EPA reviewed the state's assessments and concluded that they are consistent with federal listing requirements and applicable water quality standards for data reviewed for *Enterococci*, for aquatic weeds and algae, and for turbidity. ODEQ also listed waters consistent with their listing methodology for toxics by listing due to fish consumption advisories issued by the Oregon Department of Health. However, ODEQ did not evaluate data based on Oregon's numeric water column criteria. *See* ODEQ, 2011b.

4. Analysis of Waters Removed from Oregon 2010 Section 303(d) List

Waters not listed due to water quality standards attainment. Oregon removed a total of 13 water quality limited segments² from its Section 303(d) list because information shows that they were meeting applicable water quality standards. Five of the water quality limited segments were removed from the list because additional data showed they met water quality standards. One of the water quality limited segments meets water quality standards because Oregon utilized a new assessment method and four others meet standards because the original basis for the listing was incorrect. The three other waters were delisted because it was determined the impairment was due to a natural condition. See Oregon's list of waters removed from the 303(d) list at <http://www.deq.state.or.us/wq/assessment/rpt2010/resultsdelist10.asp>. Based on EPA's review of Oregon's assessment, EPA has determined that Oregon's removal of each of these waters from the Section 303(d) list is consistent with the requirements of Section 303(d) of the Act and 40 CFR 130.7. See ODEQ, 2011 b.

Waters not listed due to TMDL approved. Oregon removed 914 water quality limited segments from its Section 303(d) list, based on EPA approval of TMDLs for these waters. See Oregon's list of waters removed from the 303(d) list, at: <http://www.deq.state.or.us/wq/assessment/rpt2010/resultsdelist10.asp>. These water segments were placed in Category 4A, TMDLs Approved, of the Integrated Report. See Oregon's list of waters removed from the 303(d) list, at: <http://www.deq.state.or.us/wq/assessment/rpt2010/resultsdelist10.asp>. Under EPA regulations at 40 CFR § 130.7, the 303(d) list is an inventory of water bodies impaired by pollutants and requiring a TMDL. Thus, EPA has determined that ODEQ's removal from the 303(d) list of each of the 914 assessment units with an EPA approved TMDL meet the requirements of CWA Section 303(d).

B. Priority Ranking and Scheduling

EPA also reviewed Oregon's priority ranking of listed waters for TMDL development, in which ODEQ identified water quality limited segments targeted for TMDL development in the next two years. See ODEQ, 2011b, TMDL Priority and Scheduling document. EPA concluded that the targeted waters are appropriate for TMDL development in this time frame.

IV. Basis for EPA's Decision to Add Waters to Oregon's 2010 303(d) list

EPA is disapproving Oregon's failure to consider all readily available data and information to list 1004 water quality limited segments and is proposing to add them to Oregon's 303(d) list. EPA's determination to add waters and/or pollutants is based on data the state collected and solicited for the development of its submission, as well as additional material cited in the References section at the end of this document. EPA will open a public comment period on these proposed additions to Oregon's 303(d) list and will, if appropriate, revise the list of added waters and pollutants following consideration of any comments received. The general basis for adding waters and pollutants is discussed below. Case-specific water body information is provided in Enclosure 2 and Appendix A.

² The phrase "water quality limited segment" refers to impaired waters. A water body may be Section 303(d) listed multiple times if it is impaired for more than one pollutant or use.

EPA analyzed ODEQ's water body assessments and supporting rationales to determine whether the state's decisions not to list waters were consistent with federal listing requirements and the provisions of state water quality standards. *See* ODEQ, 2011b, (1). Section 303(d)(1)(A) requires states to identify waters that do not meet applicable water quality standards. 40 CFR § 130.7(d)(1) requires states to submit a list biennially to EPA for approval. EPA's review of ODEQ's water body assessments included ODEQ's analysis of data and information for the following: biological uses; *Enterococci*; algae and aquatic weeds; and turbidity and fish consumption advisories due to elevated levels of toxic substances in fish.

As a result of its review of Oregon's submission, EPA has determined that ODEQ failed to consider all readily data and information and failed to identify all waters as impaired that do not meet applicable water quality standards, for the reasons discussed below.

1. Review of all Readily Available Data and Information Supports Listing Additional Waters

EPA reviewed data that was entered in to Oregon's Laboratory Analytical and Storage Retrieval (LASAR) database for the time period that Oregon solicited during their call for data. (<http://www.deq.state.or.us/lab/lasar.htm>, January 1, 2000, through December 28, 2010). LASAR is a repository for data Oregon's collects and data and information that ODEQ received in response to the call for data during the development of the 2010 303(d) list. Specifically Oregon did not consider data and information for the following pollutants: *escherichia coli*, fecal coliform, chlorophyll a, dissolved oxygen, pH, sedimentation, temperature and toxics. *See* ODEQ, 2011b, (1). As a result, EPA has determined that additional water quality limited segments that meet the federal listing requirements under 40 CFR 130.7 were omitted from Oregon's list of water quality limited segments requiring a TMDL.

2. Waters Identified as Impaired Need to be 303(d) Listed

ODEQ was required to list all water quality limited segments still requiring TMDLs where pollution control requirements are not stringent enough to implement any water quality standards applicable to such waters. *See* 40 CFR 130.7(b)(1). As provided in 40 CFR 130.7(b)(3), "[f]or the purposes of listing waters under §130.7(b), the term "water quality standard applicable to such waters" refers to those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements." This section makes it clear that states must list waters as impaired if a use is not being met. Further, as stated in EPA's *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Section 303(d), 305(b) and 314 of the Clean Water Act*, "if a designated use is not supported and the segment is impaired or threatened, the fact that the specific pollutant is not known does not provide a basis for excluding the segment from Category 5 [of the Integrated Report]." *See* EPA, 2005, p.60.

One of the primary objectives of the CWA is "to restore and maintain the biological integrity of the Nations' waters." CWA Section 101, 33 U.S.C. 1251. Nearly every state uses benthic

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macroinvertebrates (organisms that live on the bottom of streams and rivers) to monitor and assess biological integrity of their aquatic resources. Macroinvertebrates are good indicators of biological integrity and watershed health because they live in the water for all or most of their life, are easy to collect, differ in their tolerance to amount and types of pollution/habitat alteration, often live for more than one year; have limited mobility, and are integrators of environmental condition.

ODEQ's Predictive Assessment Tool for Oregon ("PREDATOR") is a river invertebrate prediction and classification system type model designed to use macroinvertebrate data to assess the biological condition of Wadeable streams in Oregon. Hubler, S. 2008. EPA considers PREDATOR to be a scientifically rigorous tool that can be used to assess biological integrity of Oregon's Wadeable streams. Based on its use of PREDATOR, ODEQ correctly identified these waters as impaired. *See* ODEQ, 2011b, (1).

In identifying these waters as impaired, ODEQ also took notice that the pollutants causing the impairment in these water segments are unknown. ODEQ incorrectly asserted that, because the pollutants are unknown, a TMDL could not be developed for these impaired waters, and, therefore, that these waterbodies should not be put on Oregon's Section 303(d) list. *See* ODEQ, 2011b, (1). As EPA commented during the public comment period, EPA agreed with the determination that these waters are impaired, based on ODEQ's use of Oregon's PREDATOR tool, but disagreed that they should not be placed on the 303(d) list. (*See* ODEQ, 2011b, (3))

In its final Integrated Report, ODEQ placed these waters in Category 3c as impaired for "pollutant unknown." *See* ODEQ, 2011b, Integrated Report. As stated, EPA agrees with ODEQ's determination that the waters are impaired, but disagrees that this is the correct way to identify impaired waters that have a use that is not supported, as provided by 40 CFR § 130.7. Therefore, EPA disapproves the ODEQ's failure to include these 321 water quality limited segments on Oregon's Section 303(d) list based on the determination that they are impaired for "pollutant unknown."

C. EPA's List Development Process

As required by 40 CFR 130.7(d)(2), EPA has begun the process of listing waters that must be added to Oregon's Section 303(d) list. In so doing, the Agency has developed a list of impaired waters, using data provided by ODEQ, as well as data accumulated by EPA and the U.S. Geological Survey (USGS). EPA is preparing to propose its additions to Oregon's Section 303(d) for public notice and comment. This section discusses the process EPA has used to develop its list of proposed additions.

EPA began the list development process by retrieving data from Oregon's LASAR database. EPA also gathered data from EPA's STORET (Storage and Retrieval) data warehouse and from the U.S. Geological Survey (USGS) water data repository. EPA reviewed data from these three resources for the period beginning January 1, 2000, through December 28, 2010. When determining whether to add waters to Oregon's Section 303(d) list, EPA used Oregon's water quality standards (Oregon Administrative Rules (OAR), Chapter 340, Division 41) and Oregon's Listing Methodology. EPA also referred to the listing criteria contained in the water quality

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assessment guidance documents issued by EPA. EPA, 2001; EPA, 2003; EPA, 2005; EPA, 2006; and EPA, 2009.

EPA analyzed data that Oregon failed to consider for the following pollutants: pH, dissolved oxygen, toxics, temperature, bacteria, and sediment. In identifying water bodies to be listed, EPA utilized all current applicable water quality standards and primarily utilized Oregon's 2010 assessment methodology, which is based on EPA's regulations and guidance. For sediment, where Oregon has no established methodology, EPA developed methodologies that are consistent with federal regulations and guidance and are based on scientific literature and/or methodologies utilized by other states. EPA's assessment methodology is described in detail in Enclosure 2.

D. 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 Oregon's Section 303(d) list.

Based on EPA's list development process, EPA is proposing to add 1004 waters to Oregon's Section 303(d) list. Included in this proposal are the 321 water quality limited segments ODEQ placed in Category 3c as impaired for "pollutant unknown." The list of waters EPA is proposing to add to Oregon's 2010 Section 303(d) list is included in Enclosure 3.

References:

Oregon's Submittal:

ODEQ, 2011a. Final Submittal of Oregon's Section 303(d) List of Category 5 Water Quality Limited Waters Needing a TMDL. Letter from Neil Mullane, Administrator, ODEQ to Mike Bussell, USEPA; attachments include (1) Oregon's Integrated Report, (2) Methodology for Oregon's 2010 Water Quality Report and List of Water Quality Limited Waters; (3) Response to Comments on Final Supplement to Oregon's 2010 Integrated Report and (4) Oregon's TMDL Priorities and Schedule; January 31, 2011.

ODEQ, 2011b. Final Submittal of Oregon's Section 303(d) List of Category 5 Water Quality Limited Waters Needing a TMDL. Letter from Neil Mullane, Administrator, ODEQ to Mike Bussell, USEPA; attachments include (1) Oregon's Integrated Report, (2) Methodology for Oregon's 2010 Water Quality Report and List of Water Quality Limited Waters; (3) Response to Comments on Final Supplement to Oregon's 2010 Integrated Report and (4) Oregon's TMDL Priorities and Schedule; May 23, 2011.

Water Quality Standards, Beneficial Uses, Policies, and Criteria for Oregon: Oregon Administrative Rules Chapter 340 Division 41.

http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_041.html

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Letter from DEQ to EPA Region 10, Policy clarifications for Oregon's water quality standards interpretation, June 22, 1998.

Letter from DEQ to EPA Region 10, Oregon responses to EPA questions re: the State's water quality temperature standards, February 4, 2004.

Other Documents:

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EPA, 1985. January 11, 1985 Federal Register Notice, *40 CFR Parts 35 and 130, Water Quality Planning and Management: Final Rule*, 50 Fed. Reg. 1774.

EPA, 1986. Ambient Water Quality Criteria for Bacteria – 1986. EPA 440/5-84-002. US Environmental Protection Agency, Office of Water, Washington DC.

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EPA, 2003a. EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards. EPA 910-B-03-002. Region 10 Office of Water, Seattle, WA.

EPA, 2003 b. Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act. Diane Regas, Director Office of Wetlands, Oceans and Watersheds, USEPA to Regional Water Division Directors, July 21, 2003.

EPA, 2005. Guidance for 2006 Assessment, Listing, and Reporting Requirements Pursuant to Sections 303(d), 305(b), and 314 of the Clean Water Act. Diane Regas, Director, Office of Wetlands, Oceans and Watersheds, July 29, 2005.

EPA, 2006. Information Concerning 2008 Clean Water Act Sections 303(d), 305(b) and 314 Integrated Reporting and Listing Decisions. Diane Regas, Director, Office of Wetlands, Oceans and Watersheds, October 12, 2006.

EPA, 2009. Information Concerning 2010 Clean Water Act Sections 303(d), 305(b) and 314 Integrated Reporting and Listing Decisions. Suzanne Schwartz, Director, Office of Wetlands, Oceans and Watersheds, May 5, 2009.

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Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish, Second Edition. EPA 841-B-99-002. U.S. Environmental Protection Agency; Office of Water; Washington, D.C.

Hayslip, Gretchen, editor. 2007. Methods for the collection and analysis of benthic macroinvertebrate assemblages in wadeable streams of the Pacific Northwest. Pacific Northwest Aquatic Monitoring Partnership, Cook, Washington.

Hubler, S. 2008. PREDATOR: Development and use of RIVPACS-type macroinvertebrate models to assess the biotic condition of wadeable Oregon streams (November 2005 models). Oregon Department of Environmental Quality. Laboratory and Environmental Assessment Division, Watershed Assessment Section. Hillsboro, Oregon. DEQ08-LAB-0048-TR Version 1.1

EPA, 2006. Wadeable Streams Assessment: *A Collaborative Survey of the Nation's Streams*. Office of Research and Development/Office of Water. Washington, DC 20460. EPA 841-B-06-002. December 2006.