DEQ Water Quality Division

Response to Comments on Final Supplement to Oregon's 2010 Integrated Report

State of Oregon Department of Environmental Quality

Submitted to: U.S. EPA Region 10

By: DEQ Water Quality Division

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By: Karla Urbanowicz
DEQ

This report prepared by:

Oregon Department of Environmental Quality
811 SW 6th Avenue
Portland, OR 97204
1-800-452-4011
www.oregon.gov/deq

Contact:
Karla Urbanowicz
(503) 229-6099

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A: Introduction

The federal Clean Water Act (CWA) requires that the Oregon's Department of Environmental Quality (DEQ) periodically assess Oregon's water quality and report to the Environmental Protection Agency (EPA). CWA Section 305(b) requires DEQ to report on the overall status of waters in the state. CWA Section 303(d) requires DEQ prepare a list of water bodies that do not meet water quality standards where Total Maximum Daily Loads (TMDLs) will be developed. EPA recommends combining these reports into an Integrated Report that assigns an assessment category to each water body based on the evaluation of available data.

DEQ began the 2010 data assessment process by preparing a Draft **Methodology for Oregon's 2010 Water Quality Report and List of Water Quality Limited Waters** (Methodology) and issuing a public call for data. The Methodology contains the "decision rules" that DEQ used to assess water quality. The call for data included the formats and minimum quality assurance and quality control (QA/QC) requirements for data submittal. Data submittals to DEQ were accepted from May 11 through June 11, 2009. DEQ evaluated the available water quality data for Oregon's waters using the decision rules in the Methodology and assigned the appropriate status category.

The combination of water bodies in assessment Categories 4 and 5 constitutes the water quality limited waters under OAR 340-041-0046. Category 5 waters require TMDLs and constitute the 303(d) list. DEQ provided the draft assessment for public review and comment period from November 15, 2010 through December 15, 2010. After the public comment period closed, DEQ reviewed comments, made changes to the list of water quality limited waters, prepared a response to comments, and prioritized TMDL development based on the draft assessment. These materials were submitted to EPA in January 2011. DEQ continued evaluating data and information and prepared a final supplement to Oregon's 2010 Integrated Report on Water Quality and List of Water Quality Limited Waters. DEQ made this information available for public review and comment from April 13, 2011 through May 3, 2011, and held a public hearing to take public comment on April 18, 2011.

This document contains a summary of public comments on the final supplement and DEQ's response to those comments. DEQ will submit the final 2010 Section 303(d) list of Category 5: Water quality limited waters needing a TMDL to EPA for approval in May 2011. Along with the Section 303(d) list, DEQ will also submit to EPA the complete 2010 Integrated Report database report, DEQ's response to public comments on the final supplement, the Methodology for Oregon's 2010 Water Quality Report and List of Water Quality Limited Waters, and a prioritized list and schedule for TMDL development. The 2010 Integrated Report and supporting documents will be available on DEQ's website at: http://www.deq.state.or.us/wq/assessment/assessment.htm

The response to comments is organized on the following pages to address:

B. Comments on Final Supplement to Oregon's 2010 Integrated Report
C. Comments on Oregon's Assessment Methodology

D. Comments on Scope of 2010 Integrated Report
E. List of Commenters

DEQ made the **Methodology for Oregon's 2010 Water Quality Report and List of Water Quality Limited Waters** (Methodology) available for information during the public call for data in May and June 2009 and during the public comment periods on the draft list of water quality limited waters (Appendix A, Categories 4 and 5) in November /December 2010 and April/May 2011. DEQ provided the Methodology to inform the public on how DEQ reviewed information and what decision rules DEQ used to identify water bodies as water quality limited or impaired. DEQ did not solicit comments on the methodology during the public comment period. Some comments received during the public comment period pertain to the Methodology. In this response to comment document, DEQ presents a brief summary of these comments, and provides clarifying responses where necessary to explain the decision rules for the assignment of water quality status in the 2010 Integrated Report. DEQ clarified or corrected the Methodology as needed to document the protocols used for the final 2010 list of water quality limited waters.

B: Comments on Final Supplement to Oregon's 2010 Integrated Report

1. Oregon's 2010 303(d) List

1.1. Commenter (2) asked for a pre-selected "Phase II 303(d) list".

The final supplement (or, "Phase II") contained new assessments for stream biological conditions using a new assessment protocol based on expected macroinvertebrate communities, and additional de-listings based on TMDLs approved by EPA since September 2010. Except for modifying the status for three streams that had previously been a "Potential Concern" for biological conditions, the supplement (or, "Phase II") did not add waters to Oregon's 303(d) list. The complete lists of all waters being added to the 303(d) list and all waters being de-listed from the 303(d) list with the 2010 assessment are available at http://www.deq.state.or.us/wq/assessment/rpt2010/search.asp.

1.2. Commenter (2) asked how to conduct a database search to find Oregon's 303(d) list and identify waters being added to the 303(d) list with the 2010 assessment. Commenter (2) also questioned the number of waters being added to the list since the last 303(d) list was approved by EPA and became effective in 2007.

DEQ has provided a website to access a searchable database with detailed instructions on how to create a user-defined search of the complete 2010 Integrated Report at http://www.deq.state.or.us/wq/assessment/rpt2010/search.asp . Oregon's 303(d) list is available on this website either as a user defined search or a pre-selected list. The 303(d) list includes waters that were placed on the 303(d) list in previous assessment cycles (including 1998, 2002, and 2004) in addition to waters added with the 2010 assessment. There are a total of 970 records on the 303(d) list. The 303(d) list completed with the 2010 assessment will become effective once EPA approves the list.

A pre-selected list of the waters added to the 303(d) with the 2010 assessment is available at the website cited above. There are a total of 61 records that are being added to the 303(d) list with the 2010 assessment. The new listings are for aquatic weds and algae, biocriteria (status modification), Enterococci, mercury, and turbidity.

2. Waters de-listed

2.1. Commenter (3) (EPA) repeated a comment from their approval in 2007 of Oregon's 2004/2006 303(d) list requesting the number of waters de-listed for different categories such as parameters or time periods.

The requested information is available in the list of waters being de-listed with the 2010 assessment that is prepared as part of the 2010 Integrated Report. With the 2010 Integrated Report, DEQ is proposing to de-list 927 records. Each record in Oregon's Integrated Report is a unique combination of a specific assessment segment (identified by name, LLID, and segment river miles), pollutant or impairment, and season or time period. The list of de-listed waters identifies the records being de-listed with the 2010 assessment and provides information on the assessment segment, pollutant, and season. EPA identifies with their approval of TMDLs in Oregon which waters, pollutants, and/or seasons can be de-listed on the basis of the TMDL approval, including the geographic extent of the TMDLs for future 303(d) review purposes.

3. Assessment for Biocriteria

3.1. Commenter (3) raised concerns about Oregon's approach for assessing Biocriteria using "Category 3c: Impairing pollutant unknown" rather than using "Category 5: Water Quality limited, TMDL needed". Commenter cited 40 CFR 130.7(b)(3) and EPA Guidance for 2006 Integrated Reporting as appropriate direction for assessing impaired beneficial use where the causative pollutant is unknown.

DEQ believes that first identifying water-quality limited segments needing TMDLs as directed in 40 CFR130.7(b)(1) requires the identification of a pollutant. This is necessary to develop a TMDL that will result in technology-based effluent limitations, more stringent effluent limitations, or other pollution control requirements. While DEQ believes it is important to apply the narrative criteria to identify beneficial use impairments, DEQ concludes that without the impairing pollutant information, the data is incomplete. As a result, it is premature to list the waterbody as impaired in Category 5 and to conclude that a TMDL is required. DEQ believes that further work is necessary to establish the link between a biological impairment and one or more specific pollutants before imposing the requirement to develop a TMDL. DEQ believes that placing waters prematurely on a list of waters requiring pollutant TMDLs is not the appropriate course of action or use of limited state resources and could impose premature and unnecessary prohibitions or requirements on permitted point source effluent dischargers.

3.2. Commenter (3) had concerns that the Methodology protocols for assessing Biocriteria as "Category 4: Water quality limited, TMDL Not Needed" did not specify what information would be used to make this determination, who would make the determination, and how the information would be shared with the public. Commenter also questioned how the determination that no additional pollutant TMDLs would be needed to address biological impairment would be made and how the public would be informed and able to comment on those determinations.

DEQ's determinations to place waters in Category 4 are typically made through the TMDL process. Oregon's assessment methodology is not intended to specify how TMDLs are developed or what data are needed. The procedures, including the process for public participation and EPA's role in approving TMDLs, are established in Oregon rules (OAR 340-042) and Memorandum of Agreements with EPA. The TMDL process has been used in the past by DEQ and EPA to determine where pollutant TMDLs are sufficient to address listings for Biocriteria. (John Day River Basin TMDL and WQMP approved by EPA 12/17/2010, Umpqua Basin TMDL approved by EPA 04/12/2007, Applegate Subbasin TMDL approved by EPA 2/11/2004, North Coast Subbasins TMDL approved by EPA 8/20/2003). EPA has endorsed those conclusions in approving the TDMLs.

DEQ has in the past used the TMDL process to address listings for Biocriteria in order to establish that pollutants are not the cause of biological impairment and provide information about the likely cause if no pollutants are identified. Flow and habitat modification, which cannot be addressed by pollutant allocations in a TMDL, may be identified during TMDL development as conditions causing impairment. EPA approved TMDLs in the past with these conclusions, and DEQ will likely use this process again in the future.

C: Comments on Oregon's Assessment Methodology

4. Toxic substances

4.1. Commenter (2) objected to DEQ's Methodology specifying Table 20 water quality standards would be used to assess toxic substances. Commenter (2) also objected to how criteria for iron, manganese, alkalinity, ammonia, and atrazine would be applied for assessing data.

Because of resource limitations, DEQ was not able to complete new assessments for toxic substances as part of the 2010 Integrated Report. Assessment for toxic substances completed in prior assessment cycles remain part of Oregon's Integrated Report and 303(d) list, but no new assessments were provided for public review and comment.

DEQ did review and update assessment protocols for toxic substances as outlined in the Methodology prior to the 2010 call for data and during development and implementation of new data systems to evaluate site analytical data. (http://www.deq.state.or.us/wq/assessment/docs/2010AssessmentMethodology.pdf)

The applicable criteria for Clean Water Act purposes such as 303(d) listing are EPA-approved state water quality standards. Oregon standards adopted in Table 20 and approved by EPA in the 1980s contain the effective numeric criteria that are used to evaluate site data for toxic substances for assessments for Integrated Reporting. Oregon's standards for toxic substances were revised and adopted by the Environmental Quality Commission in 2004. EPA disapproved the majority of these toxic substance criteria for protecting human health and has not yet acted on the criteria protecting aquatic life. For future Integrated Reporting, the Methodology will be reviewed and updated if necessary to incorporate any new or updated water quality standards that have been approved by EPA for Oregon. In the absence of newer approved numeric criteria, DEQ applies Table 20 criteria for toxic substances. DEQ has not developed any alternative numbers or benchmarks to apply to evaluate and assess analytical results for 303(d) listing purposes for toxic substances.

The currently effective numeric criteria (Table 20) and the methods for applying them to analytical results for specific chemicals are detailed in the Methodology. The decision rules are consistent with those applied in 2004 with assessment results approved by EPA. Criteria adopted and approved in the 1980's for metals are based on total recoverable results, except for iron and manganese. A recent DEQ review of the criteria resulted in a policy memo to specify that the criteria for iron and manganese will be applied to the dissolved fraction in the water column. The Methodology incorporates this protocol. (http://www.deq.state.or.us/wq/standards/docs/MemoIronManganese11-04-2008.pdf) Using EPA guidance and water quality criteria development documents, DEQ has made decisions about the necessary data and assumptions to implement and calculate complex criteria (such as for ammonia) for individual sites, and data requirements for making impairment determinations (such as for alkalinity). These protocols, consistent with protocols applied for the 2004 assessment, are contained in the Methodology. DEQ updated the Methodology to include a Safe Drinking Water Maximum Contaminant Level for atrazine as a benchmark for assessing site data as "potential concern", but did not plan to use the MCL for 303(d) listing purposes since it is not an EPA approved water quality standard.

4.2. *Commenter (3) (EPA) repeated a comment from their approval in 2007 of Oregon's 2004/2006 303(d) list on the methodology used to evaluate station data to assess toxic substances.*

Because of resource limitations, DEQ was not able to complete new assessments for toxic substances as part of the 2010 Integrated Report. No new data assessments for toxic substances were proposed or submitted with the 2010 Integrated Report. The 2010 Methodology for toxic substances is consistent with protocols used in 2004 for evaluating and grouping site data into assessment segments and assigning an assessment status to a water body. The protocols for toxic substances are consistent with protocols for all the pollutant data potentially evaluated for Integrated Reporting where station sampling data are evaluated then grouped into assessment segments. DEQ will address any remaining issues regarding the analysis of monitoring data for toxic pollutants when new evaluations for toxic substance data are assessed in the future.

D: Comments on Scope of 2010 Integrated Report

5. Available data and information

5.1. *Commenter (3) said Oregon's 2010 Integrated Report did not evaluate all readily available data and information.*

DEQ worked with limited resources to update Oregon's statewide assessment and 303(d) list. DEQ prioritized the evaluation of pollutant data to reflect technical limitations, resource limitations, reporting timelines, and the significance of pollutants relative to other program activities, efforts, and needs.

DEQ used available data and information to: prioritize pollutants, beneficial uses, and program needs for assessment; update the assessment methodology to reflect new standards and policies; review standards and benchmarks to evaluate site data; develop benchmarks to apply for data evaluation where none are specified in the standards; plan and develop new and updated data systems to evaluate site chemistry and analytical data; plan and update data systems to assess water conditions throughout the state; update data systems to retrieve data from DEQ's analytical data repository; evaluate available site monitoring data; and gather and review information relevant to assessing beneficial use impacts protected by narrative criteria.

Oregon's 2010 303(d) list contains updates based on DEQ's review of data for a set of pollutants and beneficial use impairments that were completed and ready for public review and comment in November 2010 and in the final supplement in April 2011. In addition to new listings added to the 303(d) list, the list carries forward any listings that were previously issued and approved by EPA unless TMDLs were developed and approved for those 303(d) listings or newer data indicated the water body now meets water quality standards.

Oregon's 2010 Integrated Report provides assessment results based on available data and information for:

- Sampling data results for *Enterococci* bacteria for Coastal Recreation Waters and reports of ocean beach advisories;
- Health advisories warning that potentially harmful levels of toxins produced by blue-green algae (cyanobacteria) are present in a water body indicating a beneficial use impairment that does not meet Oregon's statewide narrative criterion;
- Other advisories warning against consuming fish indicating a beneficial use impairment that does not meet Oregon's toxic substance narrative criteria;
- Instances of Public Drinking Water System closures due to turbidity indicating a beneficial use impairment that does not meet Oregon's statewide narrative criterion;

- Water conditions for biological communities using a benchmark for freshwater macroinvertebrates to apply Oregon's narrative water quality criteria for Biocriteria;
- Waters where Total Maximum Daily Loads (TMDLs) have been completed and approved by EPA for removal from Oregon's 303(d) list.

5.2. *Commenter (3) (EPA) repeated a comment from their approval in 2007 of Oregon's 2004/2006 303(d) list highlighting the need to use narrative criteria to develop the 303(d) list.*

New assessments for Oregon's 2010 303(d) listing were done using methodologies developed to apply Oregon's narrative criteria OAR 340-041-007(10) (for Aquatic weeds or algae), OAR 340-041-0011 (Biocriteria), OAR 340-041-0033(1) (toxic substance bioaccumulation in aquatic life), OAR 340-041-0007(11) (potable drinking water), and federal water quality criteria 40 CFR Part 131.41 protecting marine coastal recreation waters using *Enterococci* as an indicator.

6. Identification of coastal waters as impaired due to ocean acidification

6.1. *Commenter (1) said Oregon's coastal water should be listed as impaired using new information showing ocean acidification is harming aquatic life. Commenter stated Oregon's pH criteria are inadequate to measure impairment and that data show violation of Oregon's narrative criteria. Commenter purported to have information and data about ocean acidification in the Pacific Ocean that should be used as the basis for assessing Oregon waters.*

Because of resource limitations, DEQ was not able to complete new assessments for pH as part of the 2010 Integrated Report. Oregon has numeric pH criteria that are specific to marine waters (pH 7.0 to 8.9) and estuarine waters (6.5 to 8.5). DEQ's Methodology lists the data and information that have been used in previous assessments to determine where pH criteria are not met and to place waters on the 303(d) list. When a numeric criteria is available to evaluate direct measurements of chemical conditions or pollutant concentrations, DEQ applies those criteria to determine if waters are impaired. Demonstrating that water conditions do not meet the general beneficial use goal in any one of Oregon's narrative criteria requires a scientifically sound basis and protocol establishing that a beneficial use, in this case marine life, is being impaired by identified pollutants that can be addressed by TMDLs. As EPA described in their recent guidance, the processes relating to ocean pH conditions and potential impacts to marine life are complex and difficult to measure. DEQ has not conducted any research or standard review for pH. Given the existence of approved Oregon numeric criteria, DEQ will wait for further action by EPA to provide direction on when and how demonstrations should be made or if modification to Oregon's marine and estuarine pH criteria are warranted.

The commenter purported to have provided data and information that pertain to Oregon waters. However, no data were submitted during Oregon's call for data that could have been reviewed if DEQ had completed an assessment of pH data. DEQ provided templates and formats for submitting data that contain the metadata and QA/QC data that are required to determine if data are acceptable and available for DEQ to evaluate. The commenter did not submit any data in either the call for data or, outside the call for data

time period, with comments on the draft and supplement 2010 Integrated Report. The commenter submitted copies of many research papers from around the world that summarize ongoing scientific investigations.

DEQ staff did a courtesy review of the journal articles submitted with comments on the final supplement, but did not find any usable data (meeting metadata, QA/QC, and format requirements) that could have been processed with other chemical data for evaluating site conditions in Oregon. (DEQ reviewed and responded to information submitted by the Commenter in November 2010 in the Response to Comments on the first phase of Oregon's 2010 Integrated Report and Section 303(d).) Critical information about site sampling locations was not included in any of the papers. One paper that the Commenter summarized as reporting "problems corresponding to measurement of low pH" did not provide the locations of monitoring sites or monitoring data collection, did not provide information about how pH was measured, did not report any measurement of pH outside Oregon's criteria range, and discussed bacteria and hatchery operational problems that were observed and being investigated to assist commercial shellfish producers. Monitoring site location information is critical and basic information for DEQ's assessment to identify the water body characterized by the sampling. Anecdotal or unknown quality information is not sufficient for DEQ to make conclusions about the quality of water and determine if measurements indicate violations of water quality standards. Oregon, like any state implementing the CWA requirements to identify waters for the 303(d) list, only has jurisdiction over state waters and does not list waters outside of those limits in other states or tribal nations or under international jurisdiction.

DEQ works in partnership with many groups to collect data and monitor waters in Oregon. DEQ encourages the Commenter or any other interested group to explore partnerships for future studies to collect information that could be used in future federal or state research to characterize marine water quality conditions and lead to added protection for beneficial uses of Oregon waters.

E: List of Commenters

Commenter Number	Name/Title	Representing	Address/Phone
1	Miyoko Sakashita Oceans Program Director	Center for Biological Diversity	351 California Street Suite 600 San Francisco, CA 94104 415-436-9682
2	Nina Bell Executive Director	Northwest Environmental Advocates	P.O. Box 12187 Portland, OR 97212-0187 503-295-0490
3	David Croxton Manager, Watershed Unit	United States Environmental Protection Agency Region 10	1200 Sixth Avenue Suite 900 Seattle, WA 98101-3140