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April 5, 2018

Susan Braley
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P.O. Box 47600
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RE: **Comments on Ecology's Public Review Draft Water Quality Policy 1-11, *Assessment of Water Quality for the Clean Water Act Section 303(d) and 305(b) Integrated Report*, February 2018 - from Clark Regional Wastewater District, the City of Vancouver and the City of Camas**

Dear Ms. Braley:

Clark Regional Wastewater District, the City of Vancouver and the City of Camas support the Washington State Department of Ecology (Ecology) process to implement improvements to the Water Quality Policy 1-11 and update the 303(d) List as part of our State's responsibility under the Clean Water Act. We have reviewed the Public Review Draft Water Quality Policy 1-11 document (*Assessment of Water Quality for the Clean Water Act Section 303(d) and 305(b) Integrated Report*, February 2018) during the public comment period and are providing specific comments on this document and its selection and application of data in the 303(d) listings process. Since the 303(d) listings are a focal point for many state and federal regulations, it is very important that the Water Quality Policy 1-11 is clear and that Ecology allow public access to all data sources used in 303(d) listings so they are well-founded and accurate to provide a true representation of the waterbody. All of the input provided herein is focused on improving the process for this outcome.

Comments on the *Water Quality Program Policy 1-11, Chapter 1*

COMMENT 1:

Policy Document Reference: 1A. Introduction and Background (Page 2)

> *"In accordance with the Water Quality Data Act (WQDA) codified in RCW 90.48.570 through 90.48.590, data submitted must include verification of appropriate quality assurance/quality control (QA/QC) to be considered in the WQA. See other sections of this policy for more information on meeting credible data requirements.*
>
> *Ecology designates an impairment when the waterbody does not consistently meet water quality standards for the designated use. To evaluate whether or not criteria are persistently being met, Ecology considers magnitude, frequency, and/or duration of the exceedance of the water quality standard."*

Discussion/Basis for Comment:

It is clear in these statements of purpose and requirements that Washington State law (WQDA) requires Ecology to verify data submitted for consideration and use in the WQA. Since data accepted into EIM for use in the WQA are applied in determining and categorizing water quality impairments and can often lead to large public capital investments funded ultimately by the residents of the state, it is absolutely critical that verification of data quality assurance/quality control and full review of supporting sampling documentation be conducted and documented by Ecology.

Recommendation:

We recommend that Ecology implement data verification, as required by the WQDA, to assess data sets submitted to EIM and applied in the WQA – and in particular those data sets submitted and applied in Category 5 listings. We also recommend that Ecology provide stakeholders full access to detailed sampling documentation that data submitters should provide to Ecology, to allow stakeholders to support Ecology in the review process.

COMMENT 2:

Policy Document Reference: 1B. Coordination with Tribes and Other States (Page 5)

> *"The States of Oregon and Idaho also share jurisdiction over water quality in waters that flow across state lines or form state boundaries. Although water quality standards and criteria may differ, coordination of listing decisions for shared waters will be evaluated during the WQA.*
>
> *Ecology staff will offer to confer with each interested tribe and also with neighboring states during the development of the WQA and 303(d) list, including policy development and revisions, and preparation of draft and final WQAs."*

Discussion/Basis for Comment:

It is unclear how Ecology has established coordination procedures for waters that flow across state lines or form state boundaries, such as the Columbia River. The magnitude of the effect of the Willamette River flows entering the lower Columbia River is significant to the confluence region and downstream reach. One example of conflicting state water quality standards between Oregon and Washington is dissolved oxygen. The applicable dissolved oxygen criteria in Washington waters of the lower Columbia River is 8.0 mg/L and not less than 90% saturation, while the dissolved oxygen criteria in Columbia and Willamette River waters in Oregon is 6.5 mg/L. These criteria differences between Oregon and Washington could create conditions where lower Columbia River waters exceed applicable dissolved oxygen criteria in Washington waters due to mixing of the two states waters in the Columbia River.

Recommendation:

We recommend that Ecology establish coordination procedures for waters that flow across state lines, such as the Columbia River. We recommend that Ecology add a new section into the Water Quality Policy that defines processes and procedure for evaluations of Washington rivers that share boundaries with Oregon and Idaho. These procedures need to identify methods in the WQA to address water quality impairments that may be due to mixing of waters across state boundaries and possibly due to point sources in adjoining states flowing into a common river.

COMMENT 3:

Policy Document Reference: 1C. Water Quality Atlas (Page 6)

> *"Ecology maintains an interactive mapping system called the Water Quality Atlas. This Atlas contains GIS layers for both marine and fresh waters, representing the surface water quality standards, assessed waters and sediments from the WQA database, permits and outfall information, and TMDLs."*

Discussion/Basis for Comment:

We commend Ecology's development of the Water Quality Atlas. This is an excellent GIS tool to understand and track the Water Quality Assessment information.

COMMENT 4:

Policy Document Reference: 1D. Ensuring Data Credibility in the Assessment (Page 7, paragraph 3 & 4):

> *"Washington State law (RCW 34.05.272) also requires Ecology's water quality program to identify, categorize, and make publicaly-available the sources of information reviewed and relied upon when preparing to take a significant agency action.*
>
> *EPA requires that states document all sources of data and information that are used in the development of their 303(d) lists as well as provide the reason for any sources of data and information that were not used. In fulfilling these state and federal requirements, Ecology compiles a list of data and information considered in the development of the WQA and makes it publicly available when the assessment is submitted to EPA."*

Discussion/Basis for Comment:

We support Ecology's full implementation of this Washington State law that requires Ecology to identify, categorize, and provide public access to the sources of information used by Ecology to determine 303(d) listings of waterbodies.

Public access to these sources of information used by Ecology to determine 303(d) listings of waterbodies is very important to allow confirmation of data applied in Water Quality Assessment and public transparency of the process. Public access to supporting documentation should be available in an electronic format (in pdf files) that could be accessed through EIM or by email from Ecology. If some documents cannot be provided in an electronic format through EIM, then public access to those documents should be provided at Ecology's headquarters.

Recommendation:

We recommend further amendments to the Water Quality Policy document to ensure full implementation of this Washington State law (WQDA). These amendments need to include, at a minimum, providing public access to field measurements and laboratory analytical data files as well as: 1) the Sampling and Analysis Plans (SAP) and Quality Assurance Project Plans (QAPP) for field sampling programs (original and updated versions), 2) site sampling documentation (map, photos, coordinates, distance from shore, and proximity to storm-water or other outfalls), 3) field measurement records (including date, time, water depth, instrument used, sampler name), and 4) field calibration records (including instrument type and serial numbers) and chain-of-custody forms for laboratory analyses.

COMMENT 5:

Policy Document Reference: Under Section 1D. Data Evaluation for Use in the Assessment (Page 7, paragraphs 5 & 6):

"Data used in the WQA must be credible. In accordance with RCW 90.48.585 and the Data Credibility Policy (Policy 1-11, Chapter 2) data are considered credible if:
Appropriate quality assurance and quality control procedures were followed and documented in collecting and analyzing water quality samples;

- *The samples or measurements are representative of water quality conditions at the time the data was collected;*
- *The data consists of an adequate number of samples based on the objectives of the sampling, the nature of the water in question, and the parameters being analyzed; and*
- *Sampling and laboratory analysis conform to methods and protocols generally acceptable in the scientific community as appropriate for use in assessment the condition of the water.*

Sampling and analyses must be conducted under a formal Quality Assurance Project Plan (QAPP) or an equivalent plan (such as established standard operating procedures) that documents quality assurance. The Data Credibility Policy describes key criteria for ensuring the credibility of data used, including:

Section 5: Components of an Approvable Quality Assurance (QA) Project Plan

Section 6: Monitoring Procedures

Section 7: Minimum Documentation for Data Submission and Recordkeeping."

Discussion/Basis for Comment:

We support Ecology's full implementation of Ecology's Data Credibility Policy (in accordance with Washington State law) that requires proof of credible data sources to apply in the Water Quality Assessment. We are requesting that Ecology provide transparency and public access to these sources of information (documentation) used by Ecology to determine 303(d) listings of waterbodies, including documentation for each of the four bullets listed above from the Policy. Public review of the Water Quality Assessment process used to determine 303(d) listings of waterbodies needs to include full access to Ecology's review documentation of data credibility, in accordance with Chapter 2 of the Water Quality Policy 1-11.

Recommendation:

We request that Chapter 1 of Ecology's Water Quality Policy 1-11 include a new section specifying a process for the public to gain access to these sources of information and to also require data credibility reviews by Ecology. Public reviews of the entire basis for 303(d) listings of waterbodies is very important to allow confirmation of data applied and reviewed in the Water Quality Assessment process, which would follow Ecology's Data Credibility Policy and Washington State law.

COMMENT 6:

Policy Document Reference: Under Section 1D. Standard Operating Procedures (Page 9):

"Ecology has also developed a full suite of standard operating procedures (SOPs) for field sampling and field analytical activities undertaken. SOPs for the collection, processing, and analysis of stream samples (EAP034 Publication #17-03-207) provides information useful to data submitters for the WQA.

A full list of SOPs can be found in Appendix 1 at the end of this document, and SOPs specific to a pollutant parameter can be found at the end of each section in Parts 2 and 3. Ecology is in the process of publishing all SOPs and making them available on Ecology's website."

Discussion/Basis for Comment:

We understand and agree that Ecology providing clear SOPs for field sampling and analytical activities will enhance uniformity of data collections. However, under Ecology's Data Credibility Policy (Chapter 2 of the Water Quality Policy 1-11) Ecology must prove that credible data sources have been documented and applied in the Water Quality Assessment. We understand that the entity collecting and submitting data would need to substantiate that appropriate quality assurance and quality control procedures were followed and documented in collecting and analyzing water quality samples in accordance with RCW 90.48.585 and the Data Credibility Policy (Policy 1-11, Chapter 2).

We are concerned that data sets could be submitted that simply reference one of Ecology's SOPs without actually developing or following an approved SOP. Ecology's review of data credibility should discern such data sets and reject them.

Recommendation:

We recommend that Ecology specify in this Policy that all data submitters need to provide the following documentation for use in the Water Quality Assessment: 1) proof that a QAPP or SOP was completed (and submitted to Ecology) prior to sampling, 2) sampling documentation (map, photos, coordinates, distance to shore, and proximity to outfalls), 3) field measurement records (including date, time, water depth, instrument used, sampler name), and 4) field calibration records (including instrument type and serial numbers). In addition, these supporting documents need to be accessible for public review as downloadable electronic files.

COMMENT 7:

Policy Document Reference: Under Section 1D. Data Verification (Page 9):

"Data verification is used to determine the credibility of data for use in the WQA. It is defined as the examination of a dataset for errors or omissions, and assessment of data quality indicators related to that dataset for compliance with acceptance method quality objectives. Data validation is not typically necessary for the purpose of the WQA; it is a much more detailed analyte-specific and sample-specific process that extends the evaluation of data beyond data verification to determine the usability of a specific data set.

Ecology programs perform data verification at multiple points to ensure the credibility of data to be used in developing the WQA. For example:

- *The QAPP provides the foundation for data verification by the data submitter. Prior to submitting data into EIM, the data submitter must indicate the level of quality assurance that was planned at the outset of a project as well as the level of quality that was achieved in data collection and analysis.*
- *Ecology staff perform quality control checks before data are loaded to the EIM database.*
- *The EIM database relies on a multitude of business rules intended to filter out poor quality and duplicative data.*
- *Ecology's WQA automation software, which downloads and analyzes data from EIM and the federal Water Quality Portal, has numerous business rules focused on data usability, such as identification of appropriate lab/field methods and units of measure for parameters.*

- *When any errors or questionable results are reported to Ecology by stakeholders, the issue is investigated and addressed. Data of poor or unknown quality are removed from the WQA."*

Discussion/Basis for Comment:

The actual verification of data submitted for the Water Quality Assessment (WQA) are dependent on the data submitter and not Ecology, as defined in this section of the policy document. This approach to data verification for use in the WQA is inadequate to protect Ecology from using invalid, incomplete, or even false data. Each of the five data verification processes defined in the bullets above are vulnerable to bias in the data submittal that is intended to result in Category 5 listings in the WQA. These vulnerabilities are briefly listed below:

1) Verification that data submitted align with QAPP data quality objectives – ***Problem***: subject to verification only by data submitter;

2) Quality control checks by Ecology before EIM loading – ***Problem***: Ecology's QC check cannot identify data collected without proper instrument calibration, collected at bias sites (shoreline eddy or at shoreline outfall), or falsified data;

3) EIM database filters out poor quality and duplicative data – ***Problem***: Without reviewing detailed supporting documentation of field sampling records (including calibrations and location records) it is not possible for Ecology to identify data that should be rejected due to poor quality or duplication.

4) Ecology's WQA automation software has rules to assess general data usability – ***Problem***: This approach can only identify errors in lab/field methods and units of measure for parameters, but it cannot identify data that should be rejected due to poor quality, lack of instrument calibration, bias in choice of collection sites, or falsified data;

5) Ecology relies on stakeholders to report errors or questionable data to allow Ecology to investigate and address – ***Problem***: This approach is wholly inadequate since stakeholders can only identify errors and questionable data that should be rejected if Ecology implements procedures to allow public access to all sources of information used by Ecology to determine 303(d) listings. Ecology needs to provide public access to field measurements and laboratory analytical data files used in the WQA as well as the QAPP for field sampling programs, site sampling documentation, field measurement records (including date, time, water depth, instrument used, sampler name), field calibration records (including instrument type and serial numbers), and chain-of-custody forms for laboratory analyses.

In addition, critical analytical data sources that are used in the WQA to trigger Category 5 listings should be required to include data validation as well as detailed data verification. The impacts to public and private infrastructure, finances, and energy consumption are very substantial when Category 5 listings are imposed on waterbodies with existing public and private wastewater discharges or other projects.

Recommendation:

We understand that Ecology has limited resources and staff. We recommend that Ecology allow stakeholders full access to detailed sampling documentation that data submitters must provide to Ecology (not just data files). We also recommend that Ecology set up a standardized and detailed data verification procedure spreadsheet for all reviewers (inside and outside of Ecology) to fill out and sign. This will engage resources outside of Ecology and enhance data verification for these very important data sources.

COMMENT 8:

Policy Document Reference: Under Section 1D. Data Unusable for the Assessment (Page 10):

"Ecology reserves the right to request further quality assurance documentation from any entity that has submitted data for use in the WQA. If Ecology determines that insufficient QA documentation is available, that the documentation indicates significant concerns about the quality of the data or information, or that there are flaws in a dataset or other information (this includes data provided during earlier WQA cycles), then the data or information will not be used as a basis to determine the status of water quality.

Data that are considered unusable will not be used for the WQA. These data may still reside in EIM with the appropriate associated QA designation. The following are examples of unusable data:

- *There are problems regarding quality assurance, sampling, laboratory procedure, or similar issues that do not meet the minimum requirements for a QAPP.*
- *Quality control efforts are not adequately documented.*
- *Data quality control documentation is available, but Ecology has significant concerns about the sufficiency of the quality control measures.*
- *The sample location information is not provided or is insufficient to accurately associate the data to an AU.*
- *The data do not contain the required elements necessary for assessing compliance with water quality standards as described in Policy 1-11, Chapter 2."*

Discussion/Basis for Comment:

Ecology's new section addressing Data Unusable for the Assessment does identify specific examples of unusable data, but it does not define routine procedures and document requirements to allow Ecology to identify problem or unusable data sources. This brief section of Chapter 1 of the Water Quality Program Policy is too general and only states that *"Ecology reserves the right to request further quality assurance documentation from any entity that has submitted data for use in the WQA."* Allowing data submittals into EIM that are used for the WQA without reviewing associated quality assurance documentation threatens the validity of all WQA data sources.

Ecology should define the quality assurance documentation requirements for all data submitters to include: the QAPP for field sampling programs, site sampling documentation (map, photos, coordinates, distance from shore, and proximity to outfalls), field measurement records (including date, time, water depth, instrument used, sampler name), field calibration records (including instrument type and serial numbers), deviations from the QAPP, and chain-of-custody forms for laboratory analyses. These quality assurance documents are needed for Ecology and public stakeholders to review and assess the usability of data sources submitted to the WQA.

Recommendation:

We strongly recommend that Ecology change this framework to require all data submitters to the EIM for WQA to include quality assurance documentation for field and laboratory data. These documents should be submitted as electronic files (pdfs) that can be accessed by the public.

COMMENT 9:

Policy Document Reference: Under Section 1E. Data and Information Submittals (Page 11):

> *"The purpose of the WQA is to determine the status of the State's water quality based on water quality standards and available data. The WQA will be based on available data and information that meets the requirements of this policy. Generally numeric and narrative data will be used for WQA purposes, depending on the parameter. Modeled data that meet credible data requirements will be allowed when the status of water quality is being determined in relation to natural conditions.*
>
> *The decision to place a waterbody in a given category must be based on data that are representative of the AU at the time of sampling. Water quality monitoring projects are typically based on objectives to determine the overall quality of the water. There are some projects in which objectives are to characterize a localized condition, such as at the location of a discharge pipe prior to complete mixing, or within a lake swimming beach during times of peak recreation use. These kinds of projects may not be representative of ambient water quality and will not be used to assess the status of waters for the WQA."*

Discussion/Basis for Comment:

Ecology's Policy document clearly states that "the WQA will be based on available data and information that meets the requirements of this policy" and that "the decision to place a waterbody in a given category must be based on data that are representative of the AU at the time of sampling". To comply with this Policy and the WQDA, all datasets undergo data verification checks by Ecology when submitted to EIM and when used in categorizing an AU. Non-representative data sets submitted for an AU may include sampling conducted in shallow shoreline sites or stagnant back eddies of a large flowing river, for example. Sample data collected in this manner cannot be relied upon to accurately characterize the overall health and condition of the water body in question.

Recommendation:

We recommend that Ecology revise the text in this section so it is clear that Ecology will perform data verification and assessment for usability to assign the appropriate QA/QC Level for data sets submitted in the WQA – and in particular those data sets applied in Category 5 listings.

We also recommend that Ecology allow stakeholders full access to detailed sampling documentation that data submitters should provide to Ecology (not just data files), to allow stakeholders to support Ecology in the review process.

COMMENT 10:

Policy Document Reference: Under Section 1E. Data and Information Submittals (Page 11-12):

> *"Data in EIM are available to the public on Ecology's website and are accessible for independent review of listing decisions." (Page 11)*
>
> *"Data submitters must document the Study QA Planning level, and document the degree to which the data were verified by setting the Study QA Assessment Level at the time that data is submitted to Ecology for loading into EIM." (Page 12)*
>
> *"Only one parameter value per day per AU will be used in the WQA. The highest measurement per day will be used unless otherwise specified, except for dissolved oxygen for which the lowest measurement will be used, and pH for which the highest or lowest measurement will be used as applicable." (Page 12)*

Discussion/Basis for Comment:

The preceding three sentences are located under the subsection titled Numeric Data Submitted to EIM, and these sentences each show inherent limitations in the EIM data submittal process, as follows:

1) *Data in EIM are available to public and accessible for independent review of listing decisions* – this is true for the data records, but it is not true of supporting documentation that would be required for the public to conduct an independent review of the listing data and decisions. Refer to Comments #6, 7, and 8 in this letter for further detailed comments.

2) *Data submitters must document the Study QA Planning level, and document the degree to which the data were verified by setting the Study QA Assessment Level at the time that data is submitted to Ecology for loading into EIM* – this only requires data submitters to self-judge and verify their own data submittal and it does not require submittal of supporting documentation that should be reviewed by Ecology and/or public stakeholders in order to determine data validity and applicability for use in the WQA.

3) *Only one parameter value per day per AU will be used in the WQA (highest measurement per day) will be used unless otherwise specified, except for dissolved oxygen for which the lowest measurement will be used, and pH for which the highest or lowest measurement will be used as applicable* – this approach does not account for continuous water quality monitoring data sets that Ecology encourages studies to collect, and it provides a negative incentive for diurnal monitoring of pH and DO as well as frequent measurement intervals in-stream.

Recommendation:

We recommend that Ecology revise the text in this section to ensure that Ecology performs data verification and assessment for usability and assigns the appropriate QA/QC Level for data sets submitted in the WQA– specifically those data sets submitted and applied in Category 5 listings. We also recommend that Ecology allow stakeholders full access to detailed sampling documentation that data submitters should provide to Ecology.

We also recommend that Ecology modify the current limitation of one parameter value per day per AU to allow for at least hourly continuous water quality monitoring data sets to document diurnal monitoring of pH and DO.

COMMENT 11:

Policy Document Reference: Under Section 1E. Data and Information Submittals / Quality Assurance Levels for Data Submittals to EIM (Page 12-13):

> *"The majority of data used by Ecology for the WQA is housed in EIM. Datasets undergo data verification checks while being submitted to EIM. Ecology only uses EIM data in the WQA that has been assigned as Level 3 or above for both QA/QC planning and assessment. A QA Planning Level of 3 or above means that, at minimum, a project operated under a QAPP or equivalent plan."*
>
> *Excerpt Summary of EIM Quality Assurance Levels for Data Submittals (in table):*
>
> ***Level 1 - Data Neither Verified nor Assessed for Usability:*** *No assessment information is available.*
>
> ***Level 2 - Data Verified:*** *Study quality control (QC) results have been examined for compliance with acceptance criteria specified in the QAPP, SAP or field/analytical method.*

> ***Level 3 - Data Verified and Assessed for Usability*** *- Study data package has at a minimum been evaluated for precision, bias, sensitivity, representativeness, comparability, and completeness as specified in the QAPP or SAP, and assessed for usability specified in the project data quality objective.*
>
> ***Level 4 – Data Verified and Assessed for Usability in a Formal Study Report:*** *Document describing Study objectives, procedures, results, conclusions and assessment of the quality of the data. Bibliographic citations should be provided.*

Discussion/Basis for Comment:

Ecology's Policy document states that "datasets undergo data verification checks while being submitted to EIM", however this is not verification by Ecology but only determination by (or a judgment of) the data submitter. Ecology's Policy document also states that "Ecology only uses EIM data in the WQA that has been assigned as Level 3 or above for both QA/QC planning and assessment." This assignment of Level 3 QA/QC quality is determined by the data submitter and not verified by Ecology.

Section 1D Data Verification in this Policy document specifies that verification of data submitted for the Water Quality Assessment (WQA) are dependent on the data submitter and not Ecology. This approach to data verification and QA/QC reviews for data used in the WQA is inadequate to protect Ecology from using invalid, incomplete, or even false data.

Recommendation:

We recommend that Ecology revise the text in this section so it is clear that Ecology will perform data verification and assessment for usability to assign the appropriate QA/QC Level for data sets submitted in the WQA – and in particular those data sets submitted and applied in Category 5 listings.

We also recommend that Ecology allows stakeholders full access to detailed sampling documentation that data submitters should provide to Ecology (not just data files), to allow stakeholders to support Ecology in the review process. (refer also to Comment #7)

COMMENT 12:

Policy Document Reference: Under Section 1E. Data and Information Submittals / Age of Data Considered in the WQA (Page 15):

> *"Data collected within ten years of the published call-for-data end date for each WQA will be consolidated and assessed with other data of the same AU and parameter. Generally, data older than ten years will not be assessed for that cycle, unless specified under the parameter-specific WQA considerations described in Part 2. Data older than ten years may also be considered when necessary to determine natural conditions.*
>
> *Evaluation of newly submitted data will be conducted by adding the new data to previously assessed data that are less than ten years old. Listings that exist from data older than ten years (in other words, from a previous WQA) will remain in the category previously assigned if no more recent data is available to assess. Listings from previous WQA cycles will not automatically be reassessed according to the latest policy unless more recent information associated with the parameter and AU is available, or it is determined that the data the old listing was based on did not meet quality assurance requirements in place at the time of its collection."*

Discussion/Basis for Comment:

The technical basis for retaining and using water quality data 10 years old and older is not supportable and does not recognize improvements in water quality instrumentation and laboratory analytical resolutions. Reliable data sources of documented quality and of recent origin for a river reach should be the basis for classification. For example, the Columbia River reach between the Willamette and Lewis Rivers is listed as Category 5 for bacteria based on one data set collected in 1992. One data set from 26 years ago is not sufficiently representative of a large water body like the Columbia River to support characterization of that water body as impaired at the highest category level.

Ecology's Policy document needs to clearly define that data older than 10 years will be excluded from use in the WQA, since these data more than one decade old would not represent current water quality conditions. Sediment data would be the exception to this rule.

We disagree with Ecology's policy statement that *"listings from previous WQA cycles will not automatically be reassessed according to the latest policy unless more recent information associated with the parameter and AU is available, or it is determined that the data the old listing was based on did not meet quality assurance requirements in place at the time of its collection".* It is our understanding that the purpose of the WQA process is to update, review, and evaluate water quality data used in the WQA and listing of waterbodies for impairment. If Ecology maintains older data that does not meet the revised WQ Program Policy, then those data are not valid for the WQA.

Recommendation:

We recommend modifying the policy to remove the use of all data older than 10 years, especially in the context of limited data sets that cannot be reasonably understood to represent actual water quality conditions. Furthermore, we recommend that the policy needs to emphasize that water quality data collected within recent years should be considered most representative and should supplant older data.

COMMENT 13:

Policy Document Reference: **Under Section 1E. Use of Non-detect Samples (Page 15):**

> *"Non-detect sample values will be considered in the assessment, but can only be used to show compliance with water quality criteria when the detection limit is less than the criteria. For calculating a geometric mean using non-detect samples, in which a zero cannot be used, a value will be chosen so as not to bias the geometric mean high or low."*

Recommendation:

We recommend that values of no more than one-half method detection limits should be used in calculating statistics for data sets, which is consistent with EPA and Ecology's policy for RPAs and risk assessments.

COMMENT 14:

Policy Document Reference: **Under Section 1E. Third Party Data Submittals (Page 16):**

> *"Submittals of information by third parties must include documentation addressing the accuracy and completeness of the information submitted to Ecology, including documentation that the required QA objectives were met. The use of third party data will be at the sole discretion of Ecology."*

Discussion/Basis for Comment:

We agree that all data submittals should include the documentation specified plus details of instrument calibrations, sampling sites, and field records. However, Ecology does not define the term "third party" in this Policy document.

Recommendation:

We recommend that Ecology provide a definition of the term "third parties" within the document and provide a logical basis or framework for the exercise of Ecology's discretion, which is based on emphasizing the use of the highest quality data providing the most representative characterization of actual water quality conditions in a segment.

COMMENT 15:

Policy Document Reference: **Under Section 1F. Category Descriptions/ Moving a proposed Category 1, 2, 3, or 5 listing to Category 4A** (Page 19-20)

> *"When new data are assessed for an AU within an approved TMDL boundary, WQA staff will consult with appropriate TMDL staff to determine that a load or wasteload allocation exists for that AU. If the AU has a load or wasteload allocation associated with it, the AU will be placed in Category 4A (Has a TMDL). If not, the AU will be placed in the appropriate category based on data results alone.*
>
> *"If a decision is made by Ecology that the AU should remain in Category 4A due to special circumstances, a remark describing this decision will be documented in the listing record."*

Discussion/Basis for Comment:

We agree that Ecology's data review and assessment process is key to correct categorization of water bodies. Tracking changes to listings or challenges to listing data is important to stakeholders as well as Ecology to comply with the WQDA.

Recommendation:

We recommend that Ecology provide a method to add remarks or flags on the listing records so that public reviewers can identify data changes in the WQA, listing changes, and if a Category 5 listing is currently under review due to data challenges.

COMMENT 16:

Policy Document Reference: **Under Section 1F. Category Descriptions / Category 5 - The 303(d) List (Page 24):**

> *"AUs impaired by a pollutant as determined by the methodology described in this policy, or by well-documented narrative evidence of impairment, will be placed in Category 5. This category will be submitted to EPA as the 303(d) list. An AU may also be placed in Category 5 if it is currently meeting standards, but credible data and information indicates that the waterbody is not expected not to meet applicable water quality standards by the next WQA cycle. AUs in Category 5 will need a TMDL, pollution control program, or other actions to bring the water into compliance with the water quality standards."*

Discussion/Basis for Comment:

The program policy statement that is underlined is in direct conflict with the data-based selection of the 303(d) listing process in the WQA. The existing Policy text specifies that "data collected through a

valid statistical methodology indicates that the waterbody is not expected not to meet applicable water quality standards", and the revised version is simplified to "credible data and information".

Recommendation:

Remove the underlined sentence or modify it to define the requirements of "credible data and information" to justify a Category 5 listing.

COMMENT 17:

Policy Document Reference: **Under Section 1G. Other Assessment Considerations / Natural Conditions (Page 25):**

> *"A determination regarding natural conditions will require information and data to validate that the condition, with no presumption either way. is not caused by human sources. Reviews to determine that exceedances are due to non-anthropogenic sources involve the examination of all available data from the site in question (including historic data older than ten years), comparison to an appropriate reference site (if applicable), and professional judgment based on experience working in the field of freshwater and marine monitoring.*
>
> *If data or information is available to determine that the condition is not from human sources, the exceedance will not be considered out of compliance with the water quality standards, and a case will be made that it is due to natural conditions, qualifying the AU for Category 1. A decision to place an AU in Category 1 because the impairment is from natural conditions will require, at a minimum, identification of a likely natural source or process sufficient to produce the condition and information to support that there are no human impacts or none in excess of the allowable limits. If there is insufficient information to determine the level of human influence, then Ecology will assume that human influences have contributed to criteria exceedances and that the contribution is measureable over natural conditions. In the absence of conclusive information about the natural condition of a waterbody, the AU will remain in Category 5 until further information or data can be used to justify a change in the category determination, or until a TMDL or other pollution control plan is approved."*

Discussion/Basis for Comment:

This policy of listing AUs in Category 5 by default is equivalent to a presumption of "guilty until proven innocent". Many shallow areas of rivers and lakes show seasonal variations in pH and dissolved oxygen that result from natural conditions of seasonal aquatic plant growth coupled with seasonal temperature ranges and solar effects that lead to diurnal variations that can exceed water quality standards. These natural conditions can occur in rivers and lakes outside of anthropogenic source effects. Shoreline regions in rivers may have diurnal variations in pH and dissolved oxygen that are much greater than the flowing river portion, yet by this policy the entire river would be classified as Category 5 requiring a TMDL and WLAs to any source in the AU. Category 5 listings of AUs even when there is insufficient information to determine the level of human influence on criteria exceedances is not scientifically supportable.

This section of the Policy also discusses the presence of large-scale physical processes (in marine waters) as "presenting naturally occurring situations that may override the ability of human influences to produce exceedances". We contend that the lower Columbia River with tidal reversals, many large river confluences, and wide sections open to wind effects also presents naturally occurring conditions that may override the ability of human influences to produce exceedances.

Recommendation:

We recommend that the revised Policy provide interim listing process steps to allow for monitoring to document conditions during a two to three-year data collection period in an AU that shows marginal or space-limited criteria exceedances that may be due to natural conditions -- prior to an AU being placed in Category 5.

COMMENT 18:

Policy Document Reference: Under Section 1G. Other Assessment Considerations / Requests for Reconsideration of Listing Decisions (Page 26):

> *"Ecology reserves the right to make WQA decisions on matters not addressed by this policy, or in a manner not in accordance with this policy, as needed to address unusual or unforeseen situations. The WQA decisions will be based on available information used in accordance with the water quality standards, credible data policies, and other relevant State and federal laws and regulations. Any listing decisions that deviate from methodologies described in this policy will be clearly described in the remarks section of the waterbody listing."*
>
> *"At any time, interested parties may contact Ecology in writing to request that an existing AU listing in any of the five categories be reassessed under the listing factors of this policy. The request must include the following:*
>
> - *The reason(s) the listing is inappropriate and how the policy would lead to a different;*
> - *outcome (for example moved to another category).*
> - *The data and information necessary to enable Ecology to conduct the review.*
>
> *The results of WQA reviews which occur between scheduled WQA cycles will become part of the next scheduled draft WQA report to EPA.*

Discussion/Basis for Comment:

The impact of Category 5 listings on point sources that require NPDES permits is very significant. In the event that a stakeholder challenges a Category 5 listing in accordance with Ecology's policy, and also provides data to enable Ecology to conduct a review, Ecology should have a policy to flag or possibly delay the Category 5 listing until after Ecology's review is completed.

Recommendation:

We are recommending that Ecology modify the text in this policy section to allow a Category 5 listing to be flagged as under review during a formal listing challenge, in accordance with Ecology's policy, until after Ecology's review is completed

COMMENT 19:

Policy Document Reference: Under Part 2. Assessment Considerations for Water Quality Criteria - Section 2C. Dissolved Oxygen (Page 41):

> *"The estimated instrument accuracy in measuring ambient DO is ± 0.2 mg/L. DO values that exceed a criterion magnitude by more than 0.2 mg/L are more likely to accurately indicate a criterion exceedance. Ecology will not count a DO value from a time series dataset as an exceedance when it exceeds the criterion by 0.2 mg/L or less. Since discrete data is unlikely to capture the daily extreme values, an exceedance is likely to be greater than what is actually observed. Therefore, it is not necessary to account for instrument accuracy with discrete DO data and the 0.2 mg/L margin of error will not be applied to such values."*

Discussion/Basis for Comment:

Ecology accepts dissolved oxygen instrument accuracy limitations of +/- 0.2 mg/L in the first sentence cited above, and then Ecology negates the acceptance of the same dissolved oxygen instrument accuracy limitations in the last sentence above. Whether dissolved oxygen measurements are recorded by an instrument in continuous monitoring mode or used to measure discrete values, the accuracy limitations of +/- 0.2 mg/L apply equally.

Recommendation:

We recommend that Ecology revise this section to apply the +/- 0.2 mg/L instrument accuracy limitation to all measurements recorded in the field.

COMMENT 20:

Policy Document Reference: Under Part 2. Assessment Considerations for Water Quality Criteria - Section 2D. pH (Page 45):

> *"The estimated instrument accuracy in measuring ambient pH is ± 0.2 pH standard units. pH values that exceed a criterion magnitude by more than 0.2 units are more likely to accurately indicate an exceedance from the criteria. Ecology will not include a pH value from a time series dataset in the count of exceedances when it exceeds the criteria range by 0.2 units or less. Since discrete data values are unlikely to capture the daily extreme values, an exceedance is likely to be greater than what is actually observed. Therefore, it is not necessary to account for instrument accuracy with discrete pH data and the 0.2 units margin of error will not be applied to such values."*

Discussion/Basis for Comment:

Ecology accepts pH instrument accuracy limitations of +/- 0.2 units in the first sentence cited above, and then Ecology negates the acceptance of the same pH instrument accuracy limitations in the last sentence above. Whether pH measurements are recorded by an instrument in continuous monitoring mode or used to measure discrete values, the accuracy limitations of +/- 0.2 units apply equally.

Recommendation:

We recommend that Ecology revise this section to apply the +/- 0.2 pH standard units instrument accuracy limitation to all measurements recorded in the field.

COMMENT 21:

Policy Document Reference: Under Part 2. Assessment Considerations for Water Quality Criteria - Section 2D. Temperature (Page 51):

> *"The estimated instrument accuracy in measuring ambient temperature is ± 0.2 oC. Temperature values that exceed a criterion magnitude by more than 0.2 oC are more likely to accurately indicate a true criterion exceedance. When using time series data to evaluate compliance with 7-DADMax and 1-DMax criteria, Ecology will not include a value in the count of exceedances when it exceeds the applicable criterion by more than 0.2 oC. Since discrete data is unlikely to capture the daily maximum temperature, an exceedance is likely to be greater than what is actually observed. Therefore, it is not necessary to account for instrument accuracy with discrete temperature data and the 0.2 oC margin of error will not be applied to such values."*

Discussion/Basis for Comment:

Ecology accepts temperature instrument accuracy limitations of +/- 0.2 °C in the first sentence cited above, and then Ecology negates the acceptance of the same temperature instrument accuracy limitations in the last sentence above. Whether temperature measurements are recorded by an instrument in continuous monitoring mode or used to measure discrete values, the accuracy limitations of +/- 0.2 °C 0.2 units apply equally.

Recommendation:

We recommend that Ecology revise this section to apply the +/- 0.2 °C temperature instrument accuracy limitation to all measurements recorded in the field.

We appreciate this opportunity to provide our feedback on the *Public Review Draft Water Quality Program Policy 1-11, Chapter 1 – Assessment of Water Quality for the Clean Water Act Section 303(d) and 305(b) Integrated Report.* We look forward to receiving responses to our comments and we can be available to further discuss our recommendations with Ecology.

In closing, our agencies support and affirm Ecology's work on the assessment of water quality. In order for the process to appropriately safeguard water quality for the nearly 300,000 citizens represented by our agencies, the data utilized in the process needs to be obtained according to industry-standard protocols and be truly representative of the condition of the water body. Only then can the data inform the listing process responsibly. The recommendations provided herein are all intended to provide a more transparent and more accurate process that will lead to policy determinations and categorical listings that are based on the most representative data for actual water quality conditions. We trust that Ecology will thoughtfully consider these comments and take the appropriate action.

Sincerely,

John M. Peterson, P.E.
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Clark Regional Wastewater District

Brian Carlson, P.E.
Public Works Director
City of Vancouver

Steve Wall, P.E.
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