

March 30, 2018

Susan Braley
Water Quality Program
Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Online submittal form: <http://ws.ecology.commentinput.com/?id=ph6ZP>

Dear Ms. Braley,

The Interagency Team (Team) would like to thank the Washington State Department of Ecology (Ecology) for efforts to engage stakeholders in improvements to the water quality assessment process. We recognize the improvements proposed in the *2018 Public Review Draft of Water Quality Policy (Policy) 1-11 Chapter 1*¹, and appreciate the opportunity to provide comment. The Team values an opportunity to discuss comments and share ideas for continued process improvement.

On March 31, 2016, prior to *Policy* stakeholder meetings, the Team provided Ecology with comments on Chapters 1 and 2 of the 2012 *Policy*². Our comment letter recommended revisions to both Chapters given the interrelated nature of their content, and the importance of Chapter 2 in describing how Ecology evaluates the credibility of data in accordance with the *Water Quality Data Act (WQDA)*³.

Unfortunately, neither the stakeholder meetings, nor this draft *Policy* revision include proposed updates to Chapter 2. The Team and Ecology have emphasized the importance of improving the transparency and predictability of processes used for evaluating the credibility of data. We continue to urge Ecology to update Chapter 2 and provide an opportunity for public review and comment. The Team welcomes opportunities to work in partnership with Ecology and other stakeholders to accomplish this.

Our primary recommendations include that above and the bulleted list below. *Attachment A* contains more detailed comments and recommendations.

- Clarify roles and responsibilities of various parties relative to the data assembly, evaluation and assessment process.
- Add definitions for key terms and ensure consistent use of terminology.
- Describe specific criteria used to determine credibility of water quality data.
- Provide the capability for, and require the use of, the *Environmental Information Management System* to house Quality Assurance and Sampling Plans and other documentation necessary to substantiate QA Planning and Assessment Levels of 3 and improve category determinations.
- Improve Total Maximum Daily Load prioritization processes and hold local meetings to solicit local knowledge to help inform the prioritization process.
- Provide parameter and category specific de-listing procedures that match TMDL lead and EPA expectations.

¹ Washington State Department of Ecology. Public Review Draft. Water Quality Program Policy 1-11 Chapter 1. Washington's Water Quality Assessment Listing Methodology to meet Clean Water Act Requirements. February 2018.

² Washington State Department of Ecology. Water Quality Program Policy 1-11, Chapters 1 and 2. July 2012.

³ Washington State Legislature. Water Pollution Control. Water Quality Data Act Policy. RCW 90.48.570 -590. 2004.

- Provide the scientific documentation, including an evaluation of historic reference site benthic macroinvertebrate data against data quality objectives, supporting development and use of numeric criteria.
- Provide the scientific documentation for use of the two most recent years of benthic macroinvertebrate sample results and 10th percentile to support category determinations.
- Confirm, update, and/or clarify the use of benthic macroinvertebrate stressor identification study guidance and describe the regulatory linkages between the studies and municipal stormwater permits.
- Use only the hypergeometric mean test as the basis for Category 5 pH, temperature and dissolved oxygen listings, but maintain the exceptions where site- specific dissolved oxygen criteria exist in *table 602*.

Regards,

The Interagency Team: staff from the City of Bellevue, Jefferson County, King County, Kitsap County, Pierce County, Snohomish County, Thurston County, and the Washington State Department of Transportation

Attachment A – Comments on Water Quality Policy 1-11 Chapter 1

The following comments are organized according to Chapter 1 of the draft *Policy*.

Executive Summary

1. Clarify the roles and responsibilities for the production and use of credible data during the WQA.

Please clarify the roles and responsibilities of data submitters and Ecology staff to improve data credibility outcomes as required by the *Administrative Procedures Act (APA)*⁴.

Recommendation: Use an active voice throughout the *Policy* to aid in clarifying roles and responsibilities of the various parties involved in the WQA process.

Abbreviations, Acronyms, and Definitions

1. Improve the list of defined terms to foster consistent interpretation of the *Policy*.

Some of the definitions (e.g., *data validation* and *data verification*) slightly differ from those found in *Ecology's Quality Management Plan (QMP)*⁵ and the reasons for the differences are unclear. For example, the Team understands that Ecology does not “validate” the data submitted into EIM, however the definition for *data validation* in the *QMP* includes: “three key criteria to determine if data validation has actually occurred...” by the data submitter. With the omission of the three key criteria in the *Policy's* definition for data validation, it remains unclear how Ecology will determine whether data validation actually occurred by the submitter.

Recommendation: Evaluate the use of terminology throughout the *Policy* to eliminate vague, inconsistent, or incorrect descriptions. Ensure terminology aligns with legal and scientifically accepted definitions in conformance with *QMP* requirements and associated glossary for inclusion in the *Policy's* definitions.

2. Several definitions for commonly used terms are absent in the draft *Policy*.

Examples of commonly used terminology lacking definition include: *Critical Condition, Natural Condition, Non-detect, Pollutant, Pollution, QA Assessment Level, QA Planning Level, Replicate Sample, Field Replicate Sample, Sampling Event, and Significant Human Impact.*

Recommendation: Search the document for commonly used terms for inclusion in the definitions section of the *Policy*.

⁴ Washington State Legislature. Administrative Procedures Act. RCW 34.05.272.

⁵ Washington State Department of Ecology. Quality Management Plan. Publication No. 15-030303. December 2015 – Version 4.

Part 1: General Assessment Considerations

1A. Introduction and Background

1. Page 2. Fourth paragraph. As written, the paragraph could be interpreted to suggest that data submitters are responsible for ensuring the credibility of data used in the WQA. The credibility of data collected for an intended purpose may be sound, yet that does not necessarily mean the data should be assigned a Level 3 or higher in EIM for use in the WQA.

Recommendation: Re-word the sentence to clarify that data submitters are responsible for ensuring data credibility relative to their QAPPs intended purpose. Per the *WQDA*, Ecology is tasked with ensuring use of credible data in the WQA.

1B. Process to Develop Water Quality Assessment

1. Better describe the process, including roles and responsibilities of the involved parties and the laws governing the process.

As written, this section does not provide stakeholders a clear picture of the process. The Teams basic understanding is that the WQA process involves the following three main steps: assemble data, evaluate data, and assess data.

- The *assemble step* is met when Ecology sends a call-for and receives-data.
- The *evaluate* step is met when Ecology determines the credibility of assembled data using specific criteria (as required of Ecology by the *WQDA*).
- The *assess* step is met when Ecology compares the data deemed credible against *Washington State Water Quality Standards*⁶ and makes category determination.

As a distinct step, the data credibility evaluation must happen before assessing the data against *Standards*, yet the draft *Policy* uses the words *evaluate* and *assess* (or variations thereof) inconsistently or interchangeably (one example below).

Example and Proposed Edit: page 2, fifth paragraph: “To ~~evaluate~~ assess whether or not criteria are ~~persistently~~ consistently being met, Ecology considers magnitude, frequency, and/or duration of the exceedance of the water quality standard.”

Recommendation: The section would benefit from outlining the WQA development process in a simple flow chart, assigning roles and responsibilities to involved parties, and taking care to ensure consistent and appropriate word usage when describing the distinct steps of the WQA process.

⁶ Water Quality Standards for Surface Waters of the State of Washington. Chapter 173-201A WAC. Amended May 9, 2011.

1D. Ensuring Data Credibility in the Assessment

1. The draft *Policy* does not adequately describe the specific criteria used to determine credibility of water quality data in accordance with the *WQDA*.

The *WQDA* requires Ecology to develop policy describing the specific criteria that determine data credibility. Ensuring data credibility is particularly important since the WQA constitutes a significant agency action under the *APA*. Unfortunately, neither Chapter 1 nor 2 of the draft *Policy* contain baseline parameter-specific data credibility requirements in the form of method and data quality objectives (that could be used to define QA or Planning Level 3 or higher in EIM) to ensure Ecology consistently uses credible during the WQA. Further, Chapter 2 of the *Policy* has not been updated and provided for public review.

Ecology relies heavily on quality assurance project plan (QAPP) templates, standard operating procedures (SOPs), and other guidance documents to meet the requirements of the *WQDA*. However, these templates, SOPs, and guidelines do not adequately describe the specific criteria to ensure the consistent credibility of data submitted and utilized for the WQA.

Additionally, it remains unclear why the *Policy* refers to templates and SOPs as “helpful guidance” when relying upon them to meet the legal requirements of the *WQDA*.

Without adequate parameter-specific criteria in the *Policy*, Ecology and stakeholders risk generating and/or approving QAPPs using differing method and data quality objectives. This results in organizations verifying data using different conventions. This data, submitted to Ecology, undermines the credibility and consistency of data used for the WQA.

To assist in alleviating the issues above, the Team submitted a *Credible Data Proposal*⁷ to Ecology in December 2016 which outlined a framework to improve and employ consistent processes for collecting, assessing, and utilizing credible water quality data for the WQA and therefore TMDL development. The *Credible Data Proposal* and follow up communication recommended the Water Quality Program (WQP) consider the *SCUM II User’s Manual*⁸ and the Environmental Assessment Program’s recently published *Programmatic QAPP template for Water Quality Impairment Studies*⁹ to support the development of specific criteria in policy for the collection and use of credible water quality data in the WQA. These documents include method and data quality objectives lacking from the current *Policy* and QAPP templates. If Ecology deems this insufficient, the WQP should develop policy or QAPPs of equal rigor for use by stakeholders and Ecology.

⁷ Interagency Team. 2016. Credible Data Proposal to Ecology to Support Refinement to Water Quality Policy 1-11, the Water Quality Assessment and Total Maximum Daily Load Programs.

⁸ Washington State Department of Ecology. Sediment Cleanup User’s Manual II (SCUM II). Guidance for Implementing the Cleanup Provisions of the Sediment Management Standards. Chapter 173-2014 WAC. Publication No. 12-09-057.

⁹ Washington State Department of Ecology. Programmatic Quality Assurance Project Plan for Water Quality Impairment Studies. March 2017. Publication No. 17-03-107.

Examples of Specific Criteria Used to Evaluate Water Quality Data Credibility:

- (a) As required by Chapter 2 of the *Policy*, stakeholders submitting data for the WQA must collect, preserve, and analyze data using methods prescribed in procedures published by Ecology, EPA, USGS, APHA, USACOE, ASTM, or the Code of Federal Regulations. To facilitate this, the Team requests Ecology develop, document, and utilize a list of parameter-specific methods for reference and use in determining data credibility.
- (b) Neither the *Policy*, any quality assurance/quality control (QA/QC) document, nor SOP provides definitive guidance on how organizations should treat/qualify their bacteria samples that exceed method-specific hold temperatures. Without these parameter-specific criteria, stakeholders likely treat data differently and Ecology risks accepting data for use in the WQA that it should reject.
- (c) Neither the *Policy*, any QA/QC document, nor SOP provides definitive guidance on how organizations should treat/qualify their temperature data if a thermistor fails calibration criteria. Without these parameter specific criteria, stakeholders are treating data differently and Ecology risks accepting data for use in the WQA that it should reject.

Recommendations:

- Reconsider the recommendations outlined in the *Credible Data Proposal* and initiate an effort to update Chapter 2 to better define a baseline level of acceptability for data used in the WQA and therefore TMDL development.
- Create a new QAPP template or improving upon (publication 04-03-030) by including MQOs and DQOs.
- Improve the QAPP template requiring its use for: WQP grant funded projects, NPDES permit-related QAPPs, and Ecology's internal monitoring projects in support of the federal clean water programs. Achievement of QAPP required MQOs and DQOs would define data that can be assigned a QA or Planning Level 3 or higher in EIM.

2. Proposed changes to Chapter 1 removes language allowing waivers to the requirement for lab accreditation, but the allowances remain in Chapter 2 creating uncertainty regarding Ecology's granting of waivers.

- **Recommendation:** Clarify whether Ecology will still allow waivers for lab accreditation.

1E. Data and Information Submittals

1. Page's 12 – 13. Better describe the information leading up to the EIM Quality Assurance table to clarify the difference between QA Planning Levels and QA Assessment Levels. Additionally, improve the EIM Quality Assurance table to clarify roles and responsibilities for data collectors, labs, and data submitters.

Recommendation: Edit language, using active voice, leading up to and within the table to clarify roles and responsibilities of the various actors involved in the EIM submittal and QA/QC level assigning process. Define important terminology such as *QA/QC Planning Level* and *QA/QC Assessment Level*.

2. EIM does not currently provide the capability for data submitters to upload their approved QAPP, Sampling and Analysis Plan (SAP), equivalent document, modeling information, or narrative documentation to support natural condition or Category 5 determinations for B-IBI and ensure that data meet QA Planning and Assessment levels of 3 or higher.

Recommendation: Provide EIM the capability to house attached documents and require data submitters to upload their QAPP, SAP, equivalent document, information obtained from a modeling effort, or narrative documentation to EIM such that natural condition and Category 5 determinations for B-IBI occur and ensure that data achieve QA Planning and Assessment Levels of 3 or higher. Allow data in EIM to be updated more easily. As data submitters complete data validation on existing data already in EIM, submitters will need to update the information in EIM. Updated data should also be eliminated from EIM once updated.

3. Definitions for Quality Assurance Levels do not account for instances where Ecology provides waivers from producing a new QAPP when Ecology deems an existing QAPP equivalent.

Recommendation: Include language in applicable sections of the *Policy* to reflect Ecology decisions to provide waivers to QAPPs and describe how data submitters should assign Quality Assurance levels to that corresponding data in EIM.

4. Lack of clarity that EIM Quality Assurance Levels of 3 or above include conditions in the levels below them.

Recommendation: Clarify that the assignment of quality assurance levels of 3 or higher include the conditions placed on levels below them.

1F. Category Descriptions

1. Page 23. Second bullet. It is difficult for stakeholders to prepare for an assessment of progress on Category 4B listings for placement in Category 1 when the expectations on data “sufficiency” are not identified.

Recommendation: Define what constitutes “sufficient” data in determining that specific assessment unit meets *Standards*.

2. Page 23. Third bullet. Stakeholders commit significant resources to attain 4b status and implement programs to improve water quality. Failure to define what constitutes “making sufficient progress”, jeopardizes ongoing commitment of local resources for efforts required to retain 4b status.

Recommendation: Define what constitutes “making sufficient progress”.

3. Page 24. Delisting from Category 5. Define what constitutes an “other cleanup method”.

4. Reviewing 4b pollution control plan progress every listing cycle is unreasonable considering the timeframe for plan implementation and water quality response.

Recommendation: Expand the timeframe for review of pollution control plans allowing the waterbody to remain in Category 4b during the process. Consider aligning with typical TMDL effectiveness determinations.

1G. Other Assessment Considerations

1. Page 25. Under Natural Conditions, second paragraph, first sentence. Fails to identify the information and documentation generally necessary to determine *natural conditions*.

Recommendation: Clarify the information and data required to make a *natural conditions* determination. Make it clear that such information focus on processes and discharges regulated under the CWA. Additionally, refrain from using the term “validate” in the sentence as its use here is not consistent with Ecology’s *QMP*.

2. Page 25. *Natural Conditions*. Use and documentation of best professional judgment needs clarity.

Recommendation: Standardize the process as much as possible to reduce the reliance on subjectivity and facilitate consistent decision making when applying judgment for listing decisions. Clarify how to document professional judgment when applied.

1H. Prioritizing TMDLs

1. While we appreciate the added commitment to statewide public meetings, these meetings/webinars are not the best public involvement vehicle for local participation in prioritization of TMDLs.

Focused coordination with local partners helps ensure that TMDLs are prioritized to produce meaningful and measureable improvements in water quality. This level of engagement is consistent with the *EPA's 2013 Long Term Vision for Assessment, Restoration, and Protection under section 303(d) of the CWA*¹⁰.

Recommendation: Commit regional TMDL managers and leads to holding public TMDL engagement and prioritization meetings.

2. Although the criteria used to prioritize TMDLs meets the intent of Title 33 section 1313(d) of the U.S. Code and Code of Federal Regulations Part 40 section 130.7, the criteria lack the specificity found in a 1997 Memorandum of Agreement (MOA) between Ecology and EPA¹¹.

The Team understands that the *MOA* expired on December 31, 2013, but remains in effect because Ecology and EPA have not completed negotiations to finalize an update to the agreement. The *MOA* contains much more specificity on how to prioritize TMDLs and are therefore important to retain and/or improve upon.

Additionally, it may be instructive to review *Appendix E* of the *Water Quality Program Permit Writer's Manual*¹² Part 1 or other documents as appropriate to consider for inclusion in the *Policy*.

Recommendation: After updating the *MOA*, align the TMDL prioritization criteria in the *Policy* with those in the *MOA* and/or the *Permit Writer's Manual*.

¹⁰ United States Environmental Protection Agency. 2013. A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program.

¹¹ Memorandum of Agreement Between the United States Environmental Protection Agency and the Washington State Department of Ecology Regarding the Implementation of Section 303(d) of the Federal Clean Water Act. October 29, 1997

¹² Washington State Department of Ecology. Water Quality Program Permit Writer's Manual, Publication No. 92-109. 2015.

Part 2: Specific Assessment Considerations for Water Quality Criteria

General Comment: The steps described for moving a Category 4a listing to Category 1 within a TMDL area often do not consistently meet Ecology TMDL lead or EPA expectations or align with *Standards* such that stakeholders understand data requirements, enabling Ecology to report to EPA on CWA section 319 success as partial basis for continued 319 funding eligibility.

Examples of discrepancies between Ecology and EPA expectations and Policy:

- Experience with de-listing segments impaired for bacteria indicates that Ecology TMDL lead and EPA expectations for data volumes and analysis methods did not conform to *Policy* or *Standards*.
- Ecology TMDL leads do not consistently evaluate TMDL load or waste load allocations when making de-listing decisions.
- The age of data allowed or required to support de-listing has differed from *Policy*.

Recommendation: Ecology's Water Quality Program Policy staff should work with TMDL leads and EPA to develop transparent, predictable, and credible parameter-specific de-listing methods protective of designated uses and consistent with *Standards*.

2A. Bacteria

1. Page 29, third paragraph, first sentence. Assessment Information and Data Requirements. Lacks clarity on whether calculating a geometric for a season or a water year requires a minimum of five data collection events.

Recommendation: For consistency with *Standards* and subsequent areas of the *Policy*, clarify that a geometric mean calculation for a season requires a minimum of five data collection events or samples.

2. It remains unclear why Ecology's Error Analysis excluded bacteria which would allow better management of listing decision error rates through the use of advanced test statistics.

Recommendation: In alignment an Ecology 2002 overview of the Water Quality Assessment Process¹³, reconsider including bacteria in an error analysis to mitigate for Type 1 and Type 2 listing decision errors.

¹³ Overview of the Water Quality Assessment Process. 2002. Water Quality Policy 1-11. Additional Clarification of the Binomial Distribution Method. Washington State Department of Ecology.

2B. Benthic Biological Indicators

1. It is unclear how Category 5 bioassessment listing decisions can be made when EIM does not have the capability to accept documentation showing that deleterious, chemical, or physical alterations cause the designated use impairment.

Recommendation: In support of recommendation #2 under section 1E; provide EIM the capability to accept stressor identification studies supportive of Category 5 determinations.

2. It remains unclear how Ecology data used to support numeric criteria development conforms with the WQDA when: 1) it includes data gathered prior to Ecology's 2010 Quality Assurance Project Plan for Ambient Biological Monitoring; and 2) Ecology has not demonstrated that these program data have been verified for usability against a QAPP's data quality objectives.

Recommendation: Provide the public with scientific documentation demonstrating that Ambient and Sentinel Program B-IBI data, used to support numeric criteria, have been verified for usability against a QAPP's data quality objectives.

3. Page 35, 4th bullet under Evaluating Bioassessment Data based on B-IBI. Applying the B-IBI model to reach scale channel gradients as low as 0.1% does not prevent the evaluation of B-IBI scores from low-gradient, depositional, fine-sediment dominated reaches. Additionally, it remains unclear how Ecology arrived at the 0.1% threshold.

Recommendation: Limit the application of the B-IBI model to channel gradients no lower than 1%. Utilize additional habitat data when available, such as pebble counts, habitat unit type, or percent fines to support listing determinations. Provide the scientific rationale for whatever channel gradient threshold is established.

4. The use of periphyton as a bioassessment tool is not understood well enough for use in listing decisions. While the Team agrees that periphyton communities can potentially be indicative of nutrient or other pollutants, we know of no Puget Sound-specific indices or metrics useful in determining designated use(s) impairment. The Team suggests applying periphyton data as one of several lines of evidence to potentially help focus future stressor identification studies.

Recommendation: Clarify that periphyton data alone are insufficient to make impairment decisions.

5. Page 35, 1st bullet under Evaluating Bioassessment Data based on B-IBI. Statement that “Benthic macroinvertebrate community data needs to be collected and reported in accordance with the SOPs...in order to be used in the WQA” is commended for clearly conveying requirement associated with collecting this information.

Recommendation: Include this language for all other parameters where a current SOP exists.

6. Page 35, 1st bullet under Evaluating Bioassessment Data based on B-IBI. Statement (following the cited wording above) that “This applies only to data collected after 2012, when the SOP was enacted”.

Recommendation: If the reference SOP includes sampling methodology and data quality requirements, which was not developed until 2012, B-IBI listings from prior to 2012 should be removed from Category 5 as they do not meet the minimum requirements for data credibility.

7. Page 35, 1st bullet under Evaluating Bioassessment Data based on B-IBI. “B-IBI data collected using alternative protocols may be used in the WQA provided that the sampling and analysis methodology is at least as rigorous as the Ecology SOPs and results in data to which the B-IBI model can be applied.”

Recommendation: Remove this wording as it completely discounts the very clear statement, commended by the Team under item 5 above. If Ecology doesn’t remove this wording, provide detail to describe how Ecology will ensure that the sampling and analysis methodology are at least as rigorous as the Ecology SOP before using the data in the WQA.

8. Page 35, 3rd major bullet. While use of sample counts as a way to evaluate bioassessment data for use in the assessment represents a step forward, Ecology should use additional field and lab criteria.

Recommendation: Consistent with chemical and physical data quality evaluation tools, use the following additional field and laboratory criteria to evaluate the credibility of B-IBI data:

- Relative percent difference or standard deviations of field replicates
- Relative percent difference or standard deviations of lab replicates
- Lab sorting efficiency
- Lab taxonomic accuracy and precision

9. Page 36. The scientific justification for the use of only the two most recent years of data has not been provided to stakeholders in a manner consistent with legislative intent of the APA.

The Team finds that B-IBI scores at any one location are highly variable between years, thus questions the use of the two most recent years of data for category determinations.

Recommendation: Update the Policy and/or the B-IBI Thresholds Rationale¹⁴ document to include the scientific justification for use of the two most recent years of data to support bioassessment category determinations.

10. Page 36. Ecology did not disclose the use of the 10th percentile as a single bioassessment criteria as a preferred bioassessment alternative and provide the scientific documentation supporting its use to the public.

Ecology's *B-IBI Thresholds Rationale* does not discuss the use of the 10th percentile as a single criteria and therefore was not available for public dialogue in a manner consistent with the *APA*.

Recommendation: Update the Policy and/or the B-IBI Thresholds Rationale document to include the scientific justification for use of the 10th percentile to support B-IBI category determinations.

11. Page 37, 1st paragraph. The description of the correlative analysis with pollutant levels lacks clarity and raises questions about its relationship to stressor identification analysis.

Recommendation: Clarify the correlative analysis and describe its relationship to stressor identification analysis

12. Page 37, second paragraph. The use of trends analysis to support listing decisions lacks specificity needed to provide assurances of consistent, credible, and transparent analyses.

Recommendation: Describe the minimum number of samples used to support a trends analysis, the test statistic proposed, and the confidence interval and listing decisions made based upon the results. Further, please clarify how Ecology will use results from either improving or declining trends to support category determinations where they do not agree with average scores from the two most recent years.

13. Page 37, fourth paragraph. Ecology provided a link to *Guidance for stressor identification of biologically impaired aquatic resources*.

Recommendation: Clarify whether Ecology follows this guidance or the EPA's CADDIS guidance. If the Ecology guidance is used, initiate an effort to update the guidance.

¹⁴ Establishing Benthic Index of Biotic Integrity (B-IBI) Thresholds for Use in the Water Quality Assessment. 2015. Washington State Department of Ecology.

14. The use of RIVPACS model scores for the WQA is not supported without documentation of correlative analysis between reference RIVPACS and B-IBI scores showing spatial distribution among eco-types, number of samples used, the test statistic, strength of relationships and probabilities of committing type 1 and 2 errors.

Recommendation: Provide the public with scientific documentation supporting the use of RIVPACS for the WQA in a manner consistent with the *APA*.

15. The credibility of B-IBI data obtained from the Puget Sound Stream Benthos (PSSB) website can't be assessed in a manner consistent with quality assurance planning and assessment levels as defined in the *Policy*.

The PSSB website neither requires nor allows data submitters to conform to data quality requirements outlined in the *Policy* such that Ecology can deem the data credible for use in the WQA.

Recommendation:

- Refrain from pulling bioassessment data from the PSSB website, or
- Require users of PSSB to conform to the same credible data requirements in *Policy*, or
- Require all bioassessment data be loaded to and pulled from EIM only.

16. Page 36, B-IBI Thresholds. The proposed B-IBI thresholds do not consider the established negative correlation between B-IBI score and urbanization.

This could result in requiring jurisdictions expend considerable time, effort, and funds to attempt to recover B-IBI scores in highly urbanized stream reaches with little probability of success.

Recommendation: Reflect the extent of reach scale urbanization in the corresponding Eco-region B-IBI threshold, with a modified threshold recognizing that highly urbanized reaches cannot be reasonably expect to obtain the same B-IBI scores as un-urbanized or minimally urbanized reaches. Consider determining thresholds based on a linear regression equation between B-IBI scores and percent urbanization.

2C. Dissolved Oxygen

1. Pages 41 – 42. Category 5 Determinations. Fails to specify the minimum number of discrete measurements within a year, qualifying as having sufficient data.

Recommendation: Specify the minimum number of discrete dissolved oxygen measurements needed within one year to qualify as sufficient.

2. The allowed and alternative use of single day exceedances or “large deviations” to support Category 5 listings for dissolved oxygen defeats the purpose and utility of the hypergeometric mean test and perpetuates historical errors in decision making resulting in TMDLs and regulatory burden.

Recommendation: Use only the hypergeometric mean test as the basis for Category 5 listings, but maintain the exceptions where site specific dissolved oxygen criteria exist in table 602.

3. Page 43. Category 1. A TMDL target is not a *Standard* and therefore should not be used as the basis for listing decisions.

Recommendation: Remove the reference to using TMDL targets as the basis for listing decisions.

2D. pH

1. The allowed and alternative use of single day exceedances or “large deviations” from *Standards* to support Category 5 listings for pH defeats the purpose and utility of the hypergeometric mean test, introduces ambiguity, and perpetuates historical errors in decision making, resulting in TMDLs and regulatory burden.

Recommendation: Use only the hypergeometric mean test as the basis for Category 5 listings.

2E. Phosphorus (Total) in Lakes

1. The *Policy* lacks clear guidance or methods to support development of lake-specific studies which establish phosphorus criteria.

Recommendation: Develop clear and complete guidance or model-based analyses that local organizations can use to develop lake-specific criterion development evaluations.

2F. Temperature

1. Pages 53 – 55. Category Determinations. The *Policy* uses the terms “warm season”, “summer season”, and “period between July through August 15” interchangeably and introduce confusion with such periods as the Core Summer Salmonid Habitat period (June 15 – September 15) found in *Standards*.

Recommendation: Improve consistency in use of terminology and critical period ranges to maintain consistency with *Standards*.

2. Pages 53 – 55. Category Determinations. The *Policy* does not clearly articulate how category determinations are made relative to section 200(B)(iii) of the *Standards* which indicates that temperatures are not to exceed the criteria at a probability frequency of more than once every ten years on average.

Recommendation: Include language in the *Policy*, clarifying how category determinations are made relative to section 200(B)(iii) of *Standards*.