



Water Quality Program Policy 1-11

Chapter 1, 2022 Revisions

Response to Comments

By

Water Quality Program

Washington State Department of Ecology
Olympia, Washington

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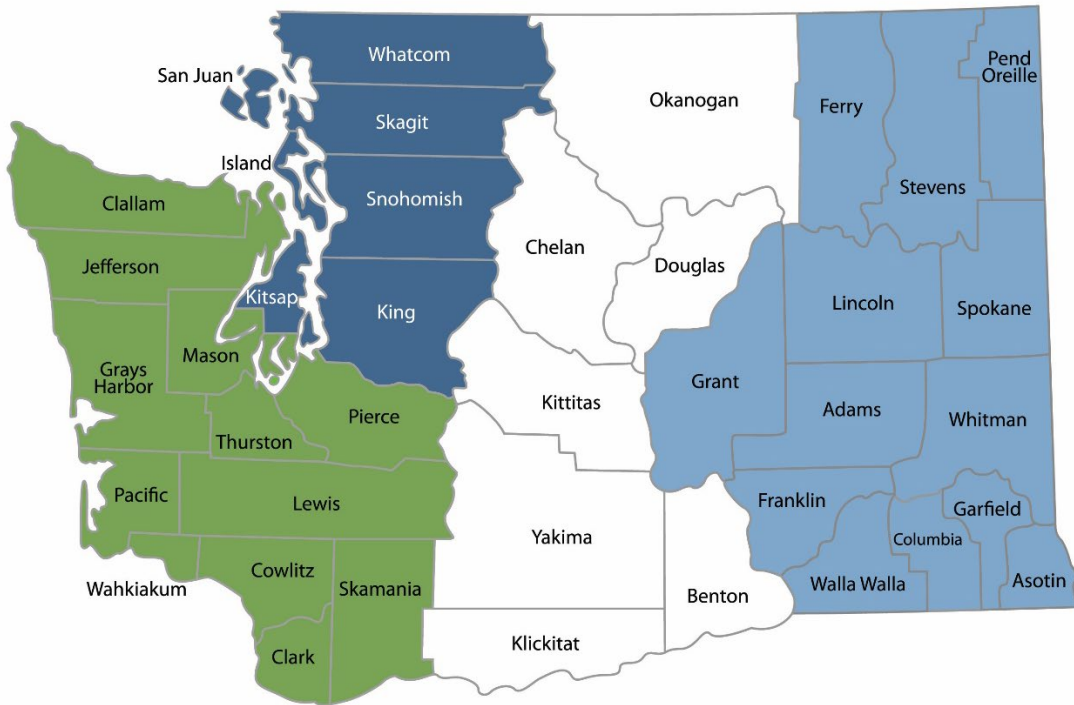
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Southwest Region 360-407-6300	Northwest Region 206-594-0000	Central Region 509-575-2490	Eastern Region 509-329-3400
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Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	P.O. Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 West Alder Street Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 North Monroe Spokane, WA 99205	509-329-3400
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DEPARTMENT OF
ECOLOGY
State of Washington

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Acronyms

Acronym	Meaning
AU	Assessment Unit
CFR	Code of Federal Regulations
CWQ	Clean Water Act
DOH	Washington State Department of Health
EPA	Environmental Protection Agency
HAB	Harmful Algae Bloom
KCEL	King County Environmental Lab
LHJs	Local Health Jurisdictions
QAPP	Quality Assurance Project Plan
RCW	Revised Code of Washington
SOP	Standard Operating Procedure
TMDL	Total Maximum Daily Load
WAC	Washington Administrative Code
WQA	Water Quality Assessment
WQP	Water Quality Program

Background

This document provides responses to comments received on the 2022 draft updates to the Washington State Department of Ecology’s (Ecology) Water Quality Program Policy 1-11, Chapter 1. The draft updates were included in two separate review documents 1) a new draft freshwater harmful algae blooms methodology 2) draft non-substantial revisions that does not change the methodology for evaluating waterbodies but adds clarity to the process. Ecology held a public comment period for the draft documents from November 7, 2022 to January 6, 2023.

Comments and responses found in this document are grouped by the two documents available for public comment. Below each comment related to the non-substantial revisions we note the section of the policy the comment relates to. Ecology received comments from five distinct entities representing various organizations, and state and federal government (Table 1).

Table 1. All organizations which provided comment on the draft Policy 1-11, Chapter 1 revisions along with their abbreviations use throughout this document.

Entity	Abbreviation
Environmental Protection Agency	EPA
Interagency Team	IAT
King County	King
Northwest Environmental Advocates	NWEA
Pierce County, Surface Water Management Division of Planning and Public Works	Pierce

Comments and Responses

Non-substantial Revisions

EPA [01]

[See Section 1E. Information submittals based on narrative standards]

40 CFR § 130.7(b)(5) requires that: “Each State shall assemble and evaluate all existing and readily available water quality-related data and information to develop the list required by §§ 130.7(b)(1) and 130.7(b)(2).” In addition, the regulations at 40 CFR § 130.7(b)(6) require states to include, as part of their list submittal to EPA, documentation to support the decisions on whether or not to rely on particular data and information, as well as the decisions on whether or not to list waters. Such documentation must include, at a minimum, the following information: (1) a description of the methodology used to develop the 303(d) list (i.e. the ‘listing methodology’); (2) a description of the data and information used to identify waters; (3) a rationale for any decision not to use existing and readily available data and information; and (4) any other reasonable information requested by EPA. Section 130.7(b)(6)(iii) states “A rationale for any decision to not use any existing and readily available data and information for any one of the categories of waters as described in § 130.7(b)(5)” shall be submitted with the list.

Please ensure that such rationales documenting why particular data and/or information were not used in the water quality assessment are included as part of the Integrated Report submittal.

Response

Additional language has been added to clarify that all information packages submitted for evaluation under our narrative standards will be submitted to EPA with the full integrated report. This includes a summary of the information submitted, documentation on how we evaluated the information, and a rationale for the decision on whether or not to include this information in a listing determination.

NWEA [04]

We strongly disagree that the revisions proposed by Ecology are either “non-substantial,” or nonsubstantive.

Response

We determined these revisions to be non-substantial because they do not substantively change our methodology for determining health of waterbodies from the 2018 WQA to future assessments, but rather add clarification of our policy.

NWEA [05]

[See Section 1E. Information submittals based on narrative standards]

In its description of Washington’s water quality standards as including narrative criteria, Ecology omits that these standards also include the designated uses. These both have independent applicability and Ecology is incorrect in implying that designated uses have no other purpose than to justify numeric and narrative criteria. Its description that it will “consider the assessment of data and information relevant to narrative standards that demonstrates degradation of a designated use” is the methodology that should be used to show that designated uses are impaired, not that narrative criteria have been violated. Narrative criteria do not require the impairment or degradation of a designated use in order to be violated. Narrative criteria only require that the conditions are not safe for such uses, just as numeric criteria do not require a concurrent degradation of a use but pertain to the water quality conditions that are not supportive of a use. One would think that the state responsible for PUD No. 1 of Jefferson County v. Washington Department of Ecology, 114 S. Ct. 1900 (1994) would comprehend the difference between designated uses and narrative criteria. See also discussion immediately below if you continue to not understand this very basic point about the Clean Water Act.

Response

Ecology does not omit that Washington’s water quality standards include designated uses. There is additional language in the introduction to Policy 1-11 that further clarifies the relationship between Washington’s water quality standards and designated uses. Specifically, “Ecology identifies a designated use of an assessment unit (AU) as impaired when the applicable water quality standards for a given AU are not persistently attained” (Policy 1-11 pg. 19). This includes both numeric and narrative standards. Therefore, if numeric or narrative water quality standards are persistently violated, the corresponding designated use(s) in that waterbody is impaired.

NWEA [06]

[See Section 1E. Information submittals based on narrative standards]

Paragraph one states that “Ecology may use narrative criteria.” DRAFT Policy 1-11 Non-Substantial Revisions at 7 (emphasis added). This is incorrect. Ecology is obligated to use narrative criteria. Federal regulations require the listing of waters for which point and nonpoint source controls are not sufficient to meet water quality standards. See 40 C.F.R. § 130.7(b)(1). For purposes of this section, as with the Clean Water Act in general, the phrase “water quality standards” means all parts of a standard—designated uses, numeric and narrative criteria, and the antidegradation policy. See *id.* § 130.7(b)(3) (“For the purposes of listing waters under §130.7(b), the term ‘water quality standards’ refer to those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements.”) (emphasis added). This could not be more clear. Yet Ecology

continues to conflate designated uses with narrative criteria, to ignore antidegradation entirely, and to overly restrict its use of narrative criteria and designated uses.

Response

The statement “Ecology may use narrative criteria in conjunction with numeric criteria as described in the parameter sections to make an impairment determination” indicates that narrative criteria can, and when appropriate will, be used in conjunction with numeric criteria, to make an impairment determination. The two criteria do not need to be evaluated independent of one another.

NWEA [07]

[See Section 1E. Information submittals based on narrative standards]

Ecology correctly adds to its methodology that data and information that must (not “may”) be evaluated against narrative criteria include its proposed addition of: “environmental data for chemical, biological, or physical parameters for which numeric standards have not been adopted, field surveys, or site-specific water quality studies providing information on designated use support.” Draft at 7. It errs, however, in suggesting that only “data” are adequate for such findings. And it continues to conflate narrative criteria with designated uses, as described above.

Response

In multiple places throughout “Section 1E. Data and Information Submittals” Ecology states that both data and information submitted is used to evaluate impairment of the narrative standards. Nowhere in this section does it state only data can be used to show impairment.

See [response to NWEA \[05\]](#) on relationship between narrative criteria and designated uses.

NWEA [08]

[See Section 1E. Information submittals based on narrative standards]

Id. at 7–8. There is simply no basis for Ecology’s requirement that designated uses must be shown to be “degraded” to demonstrate that the water quality is in violation of a narrative criterion. As NWEA has explained previously, the narrative criterion on toxics calls for a different result. WAC 173-201A-240(1) states: “Toxic substances shall not be introduced above natural background levels in waters of the state which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department.” The words “which have the potential” to affect designated uses is not the same as Ecology’s interpretation that requires these toxic substances to have already adversely affected the uses. Therefore, Ecology’s proposed methodology is not consistent with its water quality standards and is not consistent with federal law.

Response

When evaluating data and information submitted for evaluation with our narrative standards, we are determining whether there is sufficient data and information to conclude the waterbody is not persistently attaining its designated uses. We make this determination by identifying how often the waterbody is not meeting water quality standards. Noncompliance of the narrative criteria does not equate to persistently impaired or an impairment determination.

NWEA [09]

[See Section 1E. Information submittals based on narrative standards]

It is not necessary for us to comment in detail on the examples Ecology gives because the methodology is entirely flawed. But some of it is idiotic. Ecology will only list based on aesthetics if there is “quantifiable documentation that the general public has indicated” there is a problem. Does this mean that some number of the members of the public have to lodge complaints about algal blooms along Puget Sound beaches before Ecology will make a determination about an impairment that is in front of its nose? For aquatic life and wildlife, Ecology will only list a waterbody for a toxic contaminant known to cause health impairments in laboratory experiments if the species that depends upon water is also degraded to the point that it can be measured in Washington waters? Is Ecology’s policy to push species to the brink of extinction before it uses its Clean Water Act authorities and obligations to protect aquatic/aquatic-dependent species? Apparently it is.

Response

The examples provided in Section 1.E of the policy are meant to provide clarity on the types of information that would support an impairment determination. These examples do not cover the full range of information that may be used to show impairment of designated uses.

We have modified the sentence preceding the examples to read “Below are examples demonstrating data and information that would be sufficient to determine impairment of a designated use.”

NWEA [10]

[See Section 1E. Information submittals based on narrative standards]

Ecology’s other newly added admonitions, Draft Methodology at 9, say that it will not place a waterbody in Category 5 based on “naturally occurring environmental processes.” But this begs the question. As there is no natural conditions criterion exemption, on what legal and factual basis will Ecology make this determination? And on what basis does Ecology limit “biological data or information” to only “resident species,” thereby eliminating entirely anadromous species such as salmon and migratory species such as the Southern Resident killer whales even in the face of peer-reviewed scientific evidence showing how pollution not covered by numeric criteria is causing their decline? Ecology’s desire to protect polluters from having to control

pollution and to maintain the unacceptable status quo of Washington waters with unsafe levels of pollution is stunning.

Response

In this statement Ecology refers to Section 1G. Natural Conditions of Policy 1-11 for more information. The revisions also include the note in Section 1G. that states the natural conditions provisions were recently disapproved by EPA, and natural condition determinations cannot be made until new natural conditions provisions are approved by EPA. As Ecology is currently in the process of drafting new natural conditions provisions in our water quality standards, this statement makes clear that the natural condition provisions will not be used until a new provision is in place. This is included as a placeholder for when a future provision is adopted.

In many situations, anadromous species would not be appropriate for determining impairment of a designated use because of the difficulty in linking the organism's condition to the condition of the waterbody it was collected in. However, we do acknowledge that there are situations where this connection can be documented. We have removed the requirement for biological data or information based on resident species in this section of the policy.

NWEA [11]

[See Section 1E. Information submittals based on narrative standards]

Unlike the proposed HABs methodology, Ecology does not provide any information on what sources of data and information it will be using. For example, it could inform the public that it will be using the data gathered by the Eyes Over Puget Sound project (or not). It seems obvious that Ecology has no intention of assembling its own data and information to demonstrate noncompliance with narrative criteria and has placed any effort in this regard onto the commenting public.

Response

In accordance with RCW 34.05.272 and 40 CFR § 130.7(b)(6) Ecology provides EPA and the public a summary of all data and information evaluated each Water Quality Assessment and a rationale for the decision on whether or not to include this information in a listing determination. Section IE. Information Submittals Based on Narrative Standards is intended to provide guidance on the types and data and information that may be evaluated under this pathway, not a comprehensive list of all data and information available in Washington.

NWEA [12]

[See Section 1G. Natural conditions]

Ecology is certainly incorrect in terming the suspension of its natural condition methodology "non-substantial" but it is certainly correct in not using a part of the water quality standards that is no longer applicable under the Clean Water Act for the purpose of generating the 303(d) list.

Response

Comment noted.

IAT [01]

[See Section 1G. Natural conditions]

Section 1E. of proposed changes to WQP1-11 indicates that information provided to make a natural conditions determination must clearly document the connection between a persisting environmental alteration occurring with an assessment unit and the effects to the designated use in the same assessment unit in order to meet credible data requirements. The connection between these two lines of evidence is necessary to make a reasonable impairment determination.

This and other proposed language in section 1.E focuses on information needed to support a Category 5 determination, while lacking guidance on how Category 1 determinations will be made based upon natural conditions.

An attempt to find documentation of natural conditions determinations was made through the Water Quality Assessment database. We searched for Category 5 to 1 changes for all parameters statewide from current back to the 2004 list, and queried the remarks field for the term “natural”. The query returned a total of 7 pH listings that were changed due to a study finding naturally low pH. The information was difficult to find and didn’t provide documentation used to support those decisions.

Recommendations:

- Consider adding a natural conditions field and filter to the water quality assessment and atlas databases which provides clear documentation of the connection between a persistent environmental alteration and the effects to the designated use or the lack thereof. This would also allow stakeholders to identify and track natural condition listing decisions more easily.
- Consider adding language to the natural conditions provision which explains how Category 1 determinations are made based upon natural conditions.

Response

Comment noted. We will consider the recommendations for adding natural conditions filters to the Water Quality Assessment Search Tool and Water Quality Atlas. We will also consider revising the Section 1G. Natural Conditions in future policy updates if we have new EPA approved provisions for natural conditions in our water quality standards.

IAT [02]

[See Section 1G. Natural conditions]

Data collectors' knowledge of waters sampled and resulting credibility of the data supportive of natural conditions determinations includes, but is not limited to, extent of potential human

influences, representativeness of waters sampled, and appropriateness of sampling and analytical methods, QAPP notwithstanding.

For example, King County submitted comments on Ecology's 2014 Water Quality Assessment suggesting that 22 different Category 5 listings for pH were due to natural conditions.

Ecology's response for each was that the listings would remain in Category 5 and that an evaluation and potential determination of natural conditions would not be made unless "definitive information" is provided to validate that human influences did not or were not likely to cause exceedances. Ecology also referred King Co to WQP 1-11 for more information.

Unfortunately, Ecology did not identify the "definitive information" necessary to make an evaluation of non-impairment due to natural conditions.

Without easy access to documentation or further guidance on the "definitive information" needed to support an evaluation of non-impairment due to natural conditions, agencies are often obligated to implement ongoing programs to address a Category 5 listing due to natural conditions when resources could be better spent elsewhere.

Recommendations:

- Consider updates to WQP 1-11, providing a menu of definitive information needed to support an evaluation of non-impairment due to natural conditions.
- When providing response to comments on the Water Quality Assessment, it would benefit stakeholders to be informed of the "definitive information" needed to support a natural conditions determination for any category.

Response

Comment noted. We will consider revising the Section 1G. Natural Conditions in future policy updates if we have new EPA approved provisions for natural conditions in our water quality standards.

Freshwater Harmful Algae Bloom Methodology

EPA [02]

As stated in the draft HABs methodology, a combination of public health advisory information, cyanotoxin data, public health assessment information, and Washington State's Department of Health (DOH) recreational guidance will be used as the basis for evaluating the health of contact recreation.

Has Ecology considered the "do not drink" advisories for drinking water as part of the public health advisories being assessed?

Guidance for drinking water advisories is provided in Appendix E, Dealing with Cyanobacteria: Time to Make a Plan, DOH <https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/331-654.pdf>

Response

The HABs methodology evaluates contact recreation uses based on a combination of public health advisory information, algae and toxin data, public health assessment information, and Department of Health recreational guidance. The methodology is not meant to evaluate drinking water uses. Ecology did not consider drinking water advisories for this policy update as stakeholders desired policy updates focused on contact recreation uses. For that reason, the HABs methodology is focused solely on water contact recreation. Though establishing a HABs methodology for contact recreation does not eliminate the ability for Ecology to evaluate impacts to drinking water uses from HABs. Waterbodies where HABs may be impacting domestic water supply uses may still be evaluated through the narrative criteria pathway detailed in Section 1E. Information Submittals Based on Narrative Standards.

EPA [03]

Page 2 mentions a reference to DOH, 2011 but the complete reference has not been included. Please review the technical references and provide the complete citations.

Response

We have changed the reference from 2011 to 2021. The documented referenced can be found cited in “Helpful Documents”.

King [01]

Page 2, 1st paragraph. There is reference to “a framework for local health jurisdictions to issue public health advisories for waterbodies with active HABs (DOH, 2011).” However the reference cited at the end of the document is from 2021.

Response

See the above [response to EPA \[03\]](#).

King [02]

Page 3, Category 5, Part 1. “The years do not need to be consecutive.” Does the qualification stand to place waterbodies in Category 5 even if the advisories occurred many years ago, and/or many years apart? This is unclear, especially when compared to the qualification for Category 1, which has a 3-year timeline. Additionally, what is the justification for selecting the listed timelines? Specifying all timelines and including references for the timelines selected is recommended.

Response

Yes this is correct. The two years do not need to be consecutive. In Section 1E. Age of data considered in the WQA (pg. 36) we specify that in each assessment cycle we will only evaluate data within the data window specified in the call for data period (typically a 10-year period). This is the case each assessment cycle for all parameter groups. For example, for the future 2022 WQA that includes data from 2012-2021. Therefore, two non-consecutive years persistently exceeding water quality standards between 2012 and 2021 would result in a Category 5 determination. We believe two non-consecutive years with cyanotoxin conditions resulting in a WARNING or DANGER public health advisory demonstrates a waterbody is not persistently meeting its designated use. The two year non-consecutive timeframe is used to determine impairment in the majority of parameter methodologies in Policy 1-11.

Category 1 requires three consecutive years to account for the highly variable nature of toxic algae blooms and ensure blooms are no longer persistent in that waterbody.

King [03]

Page 3, Category 5, Parts 1 and 2. Assuming the DOH framework is used, all WARNING or DANGER advisories should automatically be in place for a minimum of two weeks. Week 1 the “over” sample is collected, then two consecutive weeks of samples below guidelines must be collected in order for the advisory to lift.

Sample A [over] → one week → Sample B [under] → one week → Sample C [under]

Perhaps a better qualification would be two consecutive weeks of samples over recreational guidelines, as opposed to two consecutive weeks of an advisory remaining in place (since this should always be the case).

Response

We understand the information King County has provided and appreciate the suggestion. The goal of establishing a duration component for Category 5 Parts 1 and 2 is to ensure that we are only designating a waterbody as impaired when there are multiple samples to support persistent exceedance of the narrative criteria in a waterbody. Though DOH guidance recommends weekly sampling following an exceedance of recreational thresholds, we decided not to require consecutive weekly samples because several local health jurisdictions had noted that their programs cannot support weekly sampling events. Rather, many jurisdictions do their best to sample within two weeks of an exceedance of the recreational guidance values, which is the maximum amount of time DOH recommends between sampling events.

As a result, for a Category 5 determination through Part 1 we require two samples at least one week apart to ensure persistence of the problem. Two weekly samples meeting recommendations for a public health advisory would result in an advisory in place for at minimum three weeks.

Category 5 determinations through Part 2 is meant to capture waterbodies that have a documented history of long-lasting toxic blooms and as a result, local health jurisdictions monitoring the bloom do not prioritize weekly or bi-weekly cyanotoxin sampling once an advisory is issued. However, we follow your logic and see that even if weekly sampling were to occur under DOH's guidance, the minimum amount of time a waterbody is likely to have a public health advisory issued is three weeks. For that reason, we have modified Part 2 to read "Each advisory must be in place a minimum of three weeks...."

King [04]

Page 3, Category 5, Parts 1 and 2. The differentiation between Parts 1 and 2 is unclear. Does the phrase "potentially toxin-producing cyanobacteria" insinuate that a qualitative assessment is being made, as opposed to a quantitative one? Or is the differentiation the two-year vs. two-week timeline qualification? Or whether the advisory has been placed by either DOH or the local health jurisdiction? A more succinct clarification of the distinction between Parts 1 and 2 is needed.

Response

See [response to King \[03\]](#) for differentiation between Parts 1 and 2. The phrase "potentially toxin-producing cyanobacteria or algae" is meant to capture instances where an advisory may be issued due to toxic bloom composed of algae species other than cyanobacteria. While the vast majority of algae blooms in Washington are composed of cyanobacteria, there are other species of algae in fresh and marine waters that may pose a risk to human health.

King [05]

Page 3, Category 4. These qualifications are vague. A TMDL or "alternative pollution" remediation program for HABs would potentially, if not likely, involve monitoring a contributing component such as nutrients, dissolved oxygen, or temperature, all of which have existing TMDL processes. How would the remediation programs for HABs differ from these existing programs, and why?

Response

Ecology does not expect there will be any significant differences with the processes used and programs we rely on to clean-up waters. A TMDL addressing a HABs 303(d) listing would begin like all other TMDLs; with a study to understand the site-specific conditions, sources, and contaminants that are driving algae blooms in the waterbody. A TMDL would then be developed to address the site-specific pollutants that may include one or more of the above-mentioned pollutants, as well as other potential pollutants. TMDLs assign waste load allocations that must be implemented by point sources. Load allocations are assigned to nonpoint sources. Ecology will rely on similar strategies and programs to address nonpoint source pollution as the ones detailed in current TMDL implementation plans. Specifics regarding remediation of water quality issues is outside of the scope of our Water Quality Assessment listing methodology.

King [06]

Page 4, Categories 2 and 3. A more succinct difference between these two categories is needed. In both instances either one year or one event is recorded – if the distinction is that Category 3 has only one year of data, versus Category 2 in which numerous years of data are available, but only one triggered an advisory, this distinction should be named.

Response

A waterbody is placed in Category 3 when available data is insufficient for another category determination to be made. This would mean for a waterbody to be placed in Category 3 it has available data, but that sampling event 1) does not meet the DOH recommendation for WARNING or DANGER public health advisory and 2) a WARNING or DANGER public health advisory has not been issued.

A waterbody can be placed in Category 3 with one or more years of that data if that data does not satisfy the conditions in Category 2 or Category 5. For example, a waterbody could have multiple years of cyanobacteria data, but no data exceeds the recreational guidance values so no advisory is issued.

A waterbody can be placed in Category 2 with only one year of data if that data results in a WARNING or DANGER public health advisory.

We have removed the statement “(such as only one year of cyanobacteria data or bloom information are available)” in Category 3 to avoid confusion.

King [07]

Page 4, Category 2, Part 2. “...the listing does not qualify for Category 5.” Again, if the distinction is having a minimum two-week advisory in place, this should always be the case if DOH guidelines are followed (see King [03] above).

Response

The distinction between Category 2 and Category 5 in terms of public health advisories comes down to number of years the advisory is issued. For a waterbody to be placed in Category 5, a public health advisory has been issued in two or more years. For a waterbody to be placed in Category 2 a public health advisory is issued, but not in two or more years.

We have modified the duration of a public health advisory necessary for a Category 5 determination to three weeks. See [response to King \[03\]](#) for more information.

King [08]

Page 4, Category 1. The requirements to move a waterbody to Category 1 leave room for a great deal of subjective interpretation and sampling frequency.

Response

Category 1 is written in this manner to allow flexibility of jurisdictions to provide evidence that the waterbody is no longer impaired by HABs. We encourage jurisdictions collecting data and information to remove waterbodies from Category 5 for HABs to consult with the WQA lead to ensure adequate data is collected for the WQA.

King [09]

Regarding appropriate use of data: The samples collected and submitted to the Washington Toxic Algae Program for testing are often reactive and/or purposive, and meant to determine if there is a possible health risk to people and animals at a specific time. Samples are often collected where blooms are the most concentrated to represent the greatest exposure threat to public health. This data may not best serve the purpose of “evaluating the health of contact recreation in the Water Quality Assessment (WQA),” or developing a TMDL or other remediation program which relies on monitoring data.

Response

Cyanotoxins are a documented public health risk in Washington’s lakes. Where HABs exist with concurrent cyanotoxin levels above DOH’s contact recreational guidance thresholds, the water is not safe for recreation, therefore impairing the primary contact recreation use. We believe the samples and data collected under the Washington Freshwater Algae Program represent ambient conditions as defined in our Policy table of definitions (Page 12, e.g. accurately reflect the characteristic of a waterbody at the time data are being collected) and thus are relevant to determining health of contact recreation.

King [10]

Regarding variability in sample collection and frequency: As stated above, samples submitted for toxin testing are generally done so reactively and often do not follow regular timelines and frequencies. Many other factors can influence how often bloom samples are observed and collected. These include water body and bloom accessibility and awareness, availability of volunteers or others to collect samples, ability to deliver/mail samples, proper sample handling and storage, etc. This variability will directly influence the frequency with which blooms are not only observed but analyzed for toxins in a given water body, thereby directly influencing the Category placement. How will this variability be addressed?

Response

Section 303(d) of the CWA requires states to evaluate all available water quality data and information to develop the list of impaired waters – the 303(d) list. Availability of water quality data not only HABs-related, but other parameters, can be influenced by outside factors. Not all variability can be addressed by the WQA.

However, the WQA only assesses ambient data that meets our credible data requirements. Samples that are handled and stored improperly, or have other factors that may lead to

incorrect data, will be reported as qualified data. As with other parameters, the WQA team will account for qualified data when making a determination for whether or not that data is included in the WQA. Additionally, we have included a minimum number of sampling events/public health advisories and a duration component for each to ensure that the waterbody is persistently not attain water quality standards, prior to designating the waterbody as impaired.

King [11]

Regarding specific, suitable, and equitable remediation guidelines. The proposed guidelines refer to an EPA-approved TMDL or “alternative pollution control program” with no references or other guidelines provided. With many of the Category qualifications leaning towards subjectivity, what are the implications of instigating a remediation program? What resources would be required, financially and otherwise? The Washington State Toxic Algae Program is publicly funded and generally fully utilized on an annual basis. If multiple remediation programs are instigated, the additional financial and resource burden placed on the program will need to be addressed. What entities would be responsible for the additional resource burden? If resources are not available to execute a remediation program, would a waterbody potentially remain in Category 5 indefinitely? A great deal more discussion and planning regarding the remediation and effectiveness evaluation process is needed.

Response

Ecology uses the same procedure for any impairment 303(d) listing, regardless of the pollutant. Ecology’s TMDL staff prioritize all 303(d) listings for TMDL development regularly through a public process (See Section 1H. Prioritizing TMDLs). Any waterbody listed for HABs would be included in this prioritization. A waterbody will remain in Category 5 until an EPA-approved TMDL is in place, a pollution control program meeting the category 4b criteria is being actively implemented, or there is enough data to show the waterbody qualifies for Category 1. Funding for remediation considerations do not influence the methodology for making an impairment determination supported by appropriate and sufficient data.

The details regarding eligibility requirements for a TMDL or alternative pollution control program are specified in Section 1F. While local support and interest in a watershed are considered during the TMDL prioritization process, the details of financial and resource considerations for a TMDL or other pollution control program are outside the scope of our Water Quality Assessment listing methodology.

NWEA [01]

Ecology states: “Any advisory issued solely for the preemptive purposes of protecting human health and without reasonable information to support bloom toxicity will not be used to support an impairment determination.” DRAFT Policy 1-11 Harmful Algae Blooms at 3. However, this is not consistent with federal requirements at 40 C.F.R. § 130.7(b)(5)(i) (waters identified as “threatened” must be listed). At the very least, Ecology must explain what it means by “reasonable information to support bloom toxicity,” but the language certainly

suggests that Ecology does not intend to include any threatened waters, contrary to federal law.

Response

It is unclear how this statement is contrary to federal regulations. EPA integrated reporting guidance defines a waterbody as threatened if it is predicted the waterbody will not be attaining standards by the next Integrated Report (EPA 2004). Public health advisories are issued based on the current conditions of a waterbody, not future conditions. Therefore, the issuance of a public health advisory alone contains no information that recreational uses will not be persistently attained in the future. This is particularly true if the advisory was issued without toxicity information, as there would be no evidence supporting impairment of recreational uses at the time the advisory was issued. This is the reason why the phrase “reasonable information to support bloom toxicity” was included in this section of the policy. It is meant to indicate that there should be information to support that contact recreation uses are not being met, along with the public health advisory. This would be consistent with Washington’s Credible Water Quality Data Act (RCW 90.48.570-590) and data credibility requirements described in Policy 1-11, Chapter 2, Ensuring Credible Data for Water Quality Management (Ecology 2006).

Examples of reasonable information to support bloom toxicity is presented in the Category Determinations section of the HABs methodology. See Category 5 Pathways 1 through 3.

NWEA [02]

Ecology’s requirement that various conditions exist for two or more years in order to justify placing a water into Category 5 is not consistent with the requirement to list “threatened” waters. Clearly a waterbody that has experienced “[t]wo cyanotoxin sampling events meet DOH recommendations for a WARNING or DANGER public health advisory” or a “WARNING or DANGER public health advisory for potentially toxin-producing cyanobacteria or algae has been issued by a local or state health jurisdiction” for any single year is a water that is threatened. Ecology’s proposal to distinguish between water quality sampling leading to or sufficient to support health advisories—requiring two or more years—with “one or more probably or confirmed human or animal HABs exposure events resulting in illness or death”—requiring only one year—is entirely arbitrary. People, pets, and wildlife do not need to be killed or made ill in order for a waterbody to have water quality that is harmful to designated uses. The equivalent for a temperature impairment would be that waters could only be listed after one year’s worth of deadly high temperatures unless temperature resulted in a confirmed fish kill. The point of the Clean Water Act is to protect designated uses, not to wait until people and animals are killed or injured. Ecology must remove the requirement for two years’ worth of impaired water quality for HABs Category 5 listings. Similarly, advisories in place for under two weeks are “threatened” waters and should be listed under Category 5.

Response

See [response to NWEA \[03\]](#) for EPA’s definition of “threatened” waters under their Integrated Report guidance. A public health advisory issued on a waterbody for under two weeks does not meet EPA’s definition of threatened waters.

Additionally, under their guidance, Ecology identifies a designated use of a waterbody as impaired when “applicable water quality standards for a given AU are not persistently attained” (Policy 1-11 Ch.1, pg. 19). In order to confidently show persistent impairment of a use within a waterbody, all of our parameter-specific listings methodologies require more than one year of data. We should note, EPA’s 304(a) criteria for Microcystin and Cylindrospermopsin also recommends a more than one year of exceedances to determine designated use impairment (EPA 2019).

NWEA [03]

Ecology has not adequately clarified the distinction between Category 3 and Category 2 listings. In both instances, Ecology says that it will use one of these categories when the “available data are insufficient” or “the listing does not qualify for Category 5,” respectively. The insufficiency of data—whether they are not over two years, not over two weeks, or advisories not supported by data—meets the Ecology definition for both categories 2 and 3. Therefore, Ecology must make the distinction clear.

Response

See [response to King \[06\]](#)

Pierce [01]

In May 2019, the US Environmental Protection Agency (EPA) issued Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories (AWQC/SA) for Microcystins and Cylindrospermopsin. These were developed using the latest scientific knowledge, and intended specifically to assist in developing standards for HAB cyanotoxins. In them, EPA recommends states use discrete 10-day assessment periods over the course of the recreation season to evaluate recreational use attainment. Datasets from Local Health Jurisdiction (LHJ) advisories and King County Environmental Lab (KCEL, who analyze cyanotoxins for the state) are not restricted to recreational seasons, or specified assessment periods. Many waterbodies are monitored year-round for HABs by public health agencies and local volunteers. The use of any two samples with a minimum one week between-or any single warning or danger advisory-does not consider the EPA recommended 10-day assessment window nor whether these events coincide with recreational use.

Recommendation: Ecology should follow EPA guidance by incorporating 10-day assessment periods and limit consideration of LHJ/KCEL data to recreational seasons.

Response

Comment noted. Ecology will be reviewing EPA's recommended microcystin and cylindrospermopsin criteria in the coming years to determine whether guidance values and recommended assessment periods/windows are relevant to Washington's waters. In the event we adopt numeric criteria for microcystins, cylindrospermopsin, or other cyanotoxins, we will revise this methodology to reflect the new criteria. The proposed HABs methodology will evaluate violations of our narrative water quality criteria through our narrative assessment pathway until any numeric criteria are adopted.

Pierce [02]

When LHJs or other groups monitor for HABs, they often sample the densest areas of bloom they can find. In many cases, composite samples that combine algae skimmed off the top of the water surface from several shoreline locations are used. These represent a worst-case exposure scenario, and are not representative of conditions throughout the waterbody. Composite samples are often then decanted before being packaged and shipped to KCEL, further selecting for the densest possible cell counts and positively skewing the results. This is understandable given the nature of public health advisories and the abundance of caution they warrant. It does not, however, seem appropriate to use data collected in this manner for listing determinations. Because the data are not representative of actual water quality conditions present in the assessment unit, they do not appear to meet the data credibility requirements described in Ecology's own WQP 1-11.

Recommendation: Ecology should thoroughly examine the existing KCEL dataset in light of its Data Credibility policy in Chapter 2 of WQP 1-11 and provide stakeholders written justification for why it believes the data are credible for 303(d) list determinations despite samples failing to representatively reflect water quality conditions present in the AU.

Response

See [response to King \[09\]](#)

Pierce [03]

There appears to be no state-certified Quality Assurance Project Plan (QAPP) in place to standardize the methods for toxin sample collection or shipping to KCEL. Since the intended purpose of the HAB monitoring program was to assist in recreational advisory determinations based on acute conditions affecting human health, not for assessing water quality trends or impairments for the purpose category determinations, the program lacks key data credibility elements. Measurement Quality Objectives (MQO) are needed to assure the field data is credible and suitable for characterizing waterbodies. The EPA stresses that precision, bias, representativeness, detection limit, completeness and comparability MQOs must be clearly established as the foundation of all monitoring studies. Similarly, Ecology's WQP 1-11 outlines specific data credibility requirements. The absence of appropriate quality assurance and quality control procedures during KCEL toxin sample collection and shipment do not appear to meet Ecology's own credibility standards.

Recommendation: Ecology should thoroughly examine the existing KCEL dataset in light of its data credibility policy in Chapter 2 of WQP 1-11 and provide stakeholders written justification for why it believes the data are credible for 303(d) listing determinations despite inadequate quality assurance methods for sample collection and shipping. Further, Ecology should establish a robust protocol for sampling and testing that satisfies the data credibility standards for this intended purpose.

Response

Ecology requires data collectors to follow a standard SOP developed by KCEL, that is provided to sample collectors. KCEL is accredited for cyanotoxin testing and follow internal SOPs for processing incoming samples, which may include excluding improperly shipped samples. Samples that are handled or shipped improperly, or have others factors that may lead to incorrect data, are reported as qualified data. As with other parameters, the WQA team will account for qualified data when making a determination for whether or not that data is included in the WQA. This data is used by LHJs to determine safety of the water, and directly related to the evaluation of the contact recreation use. Based on the above information, Ecology has determined the data collected through the Freshwater Algae Control Program meets our credible data requirements.

Pierce [04]

In the 2019 AWQC/SA for Microcystins and Cylindrospermopsin, EPA defines an excursion as concentrations above the advisory criteria during a 10-day assessment period. EPA further recommend that three excursions occurring within a single recreational season may be an indication recreational uses are not being supported. The proposed use of two sampling events or any single advisory decision by an LHJ over the course of a year is not consistent with EPA guidance.

Recommendation: Ecology should follow best available science as reflected in the EPA guidance, or provide justification and evidence in support of the stricter category determination criteria.

Response

See [response to Pierce \[01\]](#) regarding relevance of EPA's recommended microcystin and cylindrospermopsin criteria for assessing the health of Washington's surface waters. Without approved numeric criteria for these cyanotoxins in Washington, we believe the specified types of data, data assessment period, and number of violations of the narrative criteria for an impairment determination under the proposed HABs methodology are appropriate for determining health of recreational uses.

Pierce [05]

EPA defines the pattern of degradation in their 2019 AWQC/SA guidance, and leaves it to states to determine the number of years the pattern may occur. Ecology has provided no basis for the selection of two years. Further, the proposed policy is unclear over what period the data will be assessed (2 of the last 20 years, 10, 5, etc.).

Recommendation: Ecology should define the period over which excursions will be assessed and provide justification for the selection of two years as a basis for determining impairment.

Response

See [response to King \[02\]](#) regarding impairment determinations and the data assessment window. See [response to Pierce \[01\]](#) regarding the applicability of the recommended criteria in our Water Quality Assessment methodology.

Pierce [06]

The decision to implement the proposed approach has been made by Ecology outside of a well-documented, Technical Advisory Group (TAG) assisted process. The proposed policy lacks clear and compelling linkage between its proposed methods and the current EPA recommendations, peer-reviewed scientific literature, or other state programs that may already be in place.

Recommendation: Ecology should postpone adoption of the policy updates related to HABs until such time as a Technical Advisory Group of subject matter experts can be assembled from outside Ecology (as is typical of rulemaking). The TAG should evaluate current EPA guidance, relevant scientific and epidemiologic research, and other state programs so as to provide Ecology with recommendations to align the policy with best available science.

Response

It is unclear how the proposed policy lacks linkage between the methods, peer-reviewed scientific literature, or other state programs. Additionally, see [response to Pierce \[01\]](#) regarding the applicability of the recommended criteria in our Water Quality Assessment methodology. This methodology is based on Ecology's narrative criteria and does not require adopted numeric criteria to show designated use impairment.

Ecology began coordinating with local governments monitoring for HABs, tribes, Washington State Department of Health, and EPA when it began researching drafting a HABs methodology in early 2022. Parties were offered multiple opportunities to provide input at various stages of development and review multiple drafts of the methodology, prior to the public review period. Ecology met directly with several of these parties at their request to address specific concerns. We believe this has served a similar purpose of a technical advisory group would function. During the many conversations with subject matter experts, none expressed concerns that such a policy would warrant such a formal process. We are confident that the methodology put forward is appropriate for determining the health of contract recreational uses.

Pierce [07]

Cyanobacteria are a complex, diverse and naturally occurring group of organisms. They are present ubiquitously across terrestrial aquatic habitats and have evolved over millennia to thrive in even the most adverse conditions. While the proposed policy recognizes that these blooms can be naturally occurring, it makes no accommodation for that fact in the determination criteria. It is inappropriate to assume that any HAB occurrence is anthropogenic in nature simply because human activities can, in some cases, contribute to HAB occurrence.

Recommendation: Ecology should postpone adoption of the policy updates related to HABs until such time as a Technical Advisory Group of subject matter experts can be assembled from outside Ecology (as is typical of rulemaking). The TAG should evaluate current EPA guidance, relevant scientific and epidemiologic research, and provide Ecology with recommendations on how to account for natural conditions relative to HAB-related impairment determinations.

Response

Ecology recognizes that HABs can be naturally occurring without any anthropogenic input. The goal of the Water Quality Assessment is to characterize the health of surface water designated uses. When there is sufficient information to determine designated uses are not being met, but not enough to determine it is due to natural conditions, we are required under the Clean Water Act to 303(d) list that waterbody. This is the case for all parameter groups, not just HABs.

Pierce [08]

Ecology does not provide evidence they have considered the impact of this decision on assessed waters and the state's capacity to develop and administer TMDLs. What is Ecology's plan for addressing the influx of new Category 5 listings? What consideration have they given to the tools available for jurisdictions to address HAB impairments? Similarly, outreach to jurisdictions seems to have been concerningly limited. Only a single informational webinar was held, and was not recorded. As noted previously, there was no documented evidence of review by a TAG or groups outside the Department of Health and LHJ's prior to or during the policy development phase.

Recommendation: Ecology's Water Quality Assessment program should work closely with Ecology TMDL staff and external stakeholders to gain a more detailed understanding of the potential implications of the policy as proposed, and postpone adoption of the HAB policy until more robust engagement can occur. Additional webinars and listening sessions should be offered to solicit feedback from stakeholders beyond simply DOH, EPA and the LHJs.

Response

See [response to King \[10\]](#) for how Ecology will address these impairments through the TMDL prioritization process. See [response to Pierce \[07\]](#) regarding tribe and stakeholder involvement with this policy update. Many anthropogenic sources that cause HABs are related to nonpoint pollution. A TMDL or state lead effort is not needed to address known anthropogenic source of pollution that lead to HABs. Programs to control these pollution sources can happen at local and site specific scale and can be very successful at addressing HABs.

Pierce [09]

HABs, like BIBI scores, are a complex endpoint. Factors contributing to their occurrence are varied and waterbody specific. Ecology already has water quality standards for the contributing factors to HAB occurrence (temp, lake nutrient criteria, DO, etc.). Why are additional standards needed to protect beneficial uses when simpler, more quantitative alternatives are already in

place? Wouldn't Load Allocations and Waste Load Allocations for HAB TMDLs ultimately need to focus on standard parameters to achieve quantifiable reductions?

Recommendation: Ecology should provide additional justification as to why the surrogate measures are needed in addition to existing water quality criteria, and provide guidance on how HABs may be reduced through LAs/WLAs such that they may be eventually delisted.

Response

See [response to King \[07\]](#) for requirements of the Water Quality Assessment under the Clean Water Act. Additionally, the examples provided represent different designated uses than what the HABs methodology is evaluating. Temperature, lake nutrients, and dissolved oxygen criteria are designed to evaluate the aquatic life use. This methodology evaluates contact recreation.

See [response to King \[05\]](#) for information on how TMDLs are developed.

References

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