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January 04, 2023

Justin Donahue, Water Quality Program
Washington State Department of Ecology
PO BOX 47600
Olympia, WA 98504-7600

Subject: **WQ Policy 1-11 Draft Revisions: Freshwater Harmful Algal Bloom Methodology**

Dear Mr. Donahue:

Thank you for the opportunity to review and comment on the 2022 proposed updates to Ecology's Water Quality Policy 1-11. Pierce County appreciates the chance to provide feedback on the proposed changes, particularly those related to the new assessment methodology for freshwater harmful algal blooms. Expert staff from both our Water Quality Monitoring program and our Watershed Services planning program have reviewed the proposed changes, and wish to offer the following comments and recommendations:

1. 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 Cylindrospermopsis. 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.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. 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 TMLD 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.

9. 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.

Justin Donahue, Water Quality Program

January 4, 2023

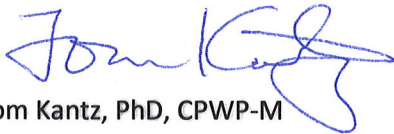
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As we have expressed in previous comment periods, Pierce County maintains the position that Ecology should codify the contents of Policy 1-11, and not adopt new language as standing guidance. The County would like Ecology to formally adopt all new language as regulation or rule, which preserves the public's right to due process and legal appeal.

As always, we appreciate the opportunity to review and provide feedback on the proposed revisions to Ecology's Water Quality Policy 1-11. We support Ecology in its desire to protect water quality and restore beneficial uses in water bodies where human activities have resulted in impairments. We believe our comments represent the constructive dialogue and contributions Ecology seeks through the public comment process, and welcome any opportunity to further discuss these remarks with Ecology staff.

Please contact me by phone at (253) 798-4625 or email at Tom.Kantz@piercecountywa.gov if you have any questions.

Respectfully,



Tom Kantz, PhD, CPWP-M

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