

May 31, 2005

Ms. Sally Marquis  
Director, Resource Planning Division  
Seattle Public Utilities, City of Seattle  
P.O. Box 34018  
Seattle, WA 98124-4018

Dear Ms. Marquis:

Thank you for your public comment letter received on December 17, 2004, regarding Washington State's Water Quality Assessment for 2002/2004. The department received over 45 comment letters during this last review process and is appreciative of the time you took to review and comment on this assessment. We realize that there is an extensive amount of information in the Water Quality Assessment. The scrutiny given by you and other public reviewers has resulted in many changes and corrections that improved the accurateness of the final submittal to the Environmental Protection Agency (EPA).

The Water Quality Assessment is being submitted to EPA as an "integrated report" to meet the Clean Water Act requirements of sections 305(b) and 303(d). EPA will only take approval action on Category 5 of the assessment, which represents the state's 303(d) list. The Water Quality Assessment can be viewed at <http://www.ecy.wa.gov/programs/wq/303d/index.html>.

Responses to your specific comments, noted below, correspond in the order provided in your letter.

*1. Policy of Listing prior to Evaluation Anthropogenic Influences*

Ecology appreciates your concerns with listing a water as impaired when in fact it is solely impaired from natural conditions that cause the standards to be exceeded. We received similar comments from others regarding natural condition calls, and have tried to take a more concerted effort to consider whether an exceedance may in fact be due to natural conditions and not anthropogenic sources. We have asked the staff in our Environmental Assessment Program (EAP), Marine Unit, to review marine water listings that appear to be caused by natural conditions. EPA has made it clear that they will not allow a water to be taken off the 303(d) list without good justification, so we are working to provide that information where it appears natural conditions are evident. We are also looking at fresh water listings for conventional parameters, particularly temperature, to determine if human activities in proximity to the listing could be causing or contributing to the increased temperatures. We believe these exercises will provide greater certainty that listing a water body for impaired is accurate.

Regarding your specific request to look at the dissolved oxygen listing for Elliott Bay, staff from Ecology Marine Unit reviewed this listing and determined that the location is subject to incursions of upwelled, low D.O. waters, with no evidence of anthropogenic sources. It was therefore moved to Category 1 due to natural conditions.

*Listing ID# 13600, Thornton Creek*

Ecology reviewed this listing again based on your comments. Your comment was correct in that the hardness calculation was derived from dissolved Calcium and Magnesium values submitted. The total hardness values provided in the comment were not originally submitted so the calculation was necessary. We were not aware that total hardness values were available. Using the total hardness values provided with the comments shows that the samples collected at Station 434 on 11 June 2001 and 14 November 2001 do not exceed the chronic criterion for copper. This listing has been changed to Category 1.

*2. Listing ID# 8066, Lake Union*

Seattle Public Utilities requested that Ecology provide the original data used to calculate the excursions. Below is a table which shows all samples which exceeded the criterion. The table also includes the hardness-derived criterion used to determine compliance with Chapter 173-201A WAC.

LOCATOR	COLLECTDATE	loc&date	hardness	LEAD, DISSOLVED (mg/L)	LEAD, DISSOLVED (ug/L)	criterion
527	25-Feb-98	52735851	39.6	0.00437	4.37	0.905967
527	12-Feb-98	52735838	49.7	0.00313	3.13	1.166537
527	25-Feb-98	52735851	39.6	0.00246	2.46	0.905967
527	25-Jun-98	52735971	35.4	0.0019	1.9	0.799324
527	25-Jun-98	52735971	35.4	0.0018	1.8	0.799324
527	5-Feb-98	52735831	33.9	0.0015	1.5	0.761524
527	11-Jun-98	52735957	46.1	0.0018	1.8	1.073062
527	28-May-98	52735943	47.2	0.0018	1.8	1.101558
527	35929	52735929	56.6	0.0019	1.9	1.347283
527	35971	52735971	35.4	0.0011	1.1	0.799324

The Pb criterion was determined in accordance with Chapter 173-201A WAC as follows:

$$(0.791)(e^{(1.273[\ln(\text{hardness})] - 1.460)}) \text{ at hardness} = 100.$$

Conversion factor (CF) of 0.791 is hardness dependent. CF is calculated for other hardness as follows:  $CF = 1.46203 - [(\ln \text{ hardness})(0.145712)]$ .

SPU suggests that Ecology miscalculated the criterion by not incorporating the hardness. The above calculation requires a conversion factor (CF). The conversion factor of [0.791] is valid when hardness = 100. When hardness is other than 100, the calculated CF must be used in place of [0.791].

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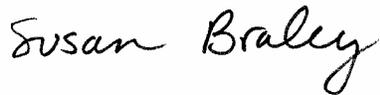
At the request of SPU, Ecology has re-verified the above calculated criterion and determined that the assessment of data associated with listing ID# 8066 is correct.

*3. Listing ID# 12152, Bitter Lake*

After a review of the original dataset, EAP determined that the geometric mean was incorrectly applied. The geometric mean criterion applies only if five or more samples exist in a given year or season. However, the percentile criterion was exceeded. Seattle Public Utilities states that the number of samples exceeding the percentile criterion is "None". SPU and Ecology calculations show that the percentile criterion was violated on August 8, 1998. This listing has been changed to a Category 2 based on this reassessed information.

Thank you again for taking the time to provide comments to Ecology. If you have questions regarding the above responses, or would like further clarification, please feel free to call me at 360-407-6414. You also requested that we meet together to discuss the data and protocols for listing water bodies. If you are still interested in a meeting, please feel free to give me a call so that we can make arrangements.

Sincerely,

A handwritten signature in cursive script that reads "Susan Braley".

Susan Braley  
Unit Supervisor  
Watershed Management Section