AWC
ASSOCIATION OF WASHINGTON CITIES
1076 Franklin Street SE • Olympia, WA 98501-1346

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Marla Koberstein
Department of Ecology
Water Quality Program
PO Box 47696
Olympia, WA 98504-7696

RE: Triennial Review of water quality standards

Dear Ms. Koberstein –

Thank you for the opportunity to comment. Washington's cities take seriously their obligations to protect and preserve our natural environment, including through the regulation of authorized wastewater discharges. As utility operators, cities are also responsible to finance improvements needed to meet water quality standards, largely through customer rates. Being able to explain the rationale behind public works improvements to those who will pay the bill is a critical part of the responsibility city utilities owe to their customers.

Ecology has acknowledged that it has no documentation as to the scientific basis for the marine DO standards that were adopted by a predecessor agency in 1967. In its acknowledgment of the lack of a scientific foundation, the agency pointed to a report from 1968 that included recommended marine DO criteria but also included a cautionary clause regarding its recommendation: *The committee would like to stress the fact that, due to a lack of fundamental information on the DO requirements of marine and estuarine organisms, these requirements are tentative and should be changed when additional data indicate that they are inadequate*.

These "tentative" requirements have become permanent simply through the passage of time. With that 56-year standing invitation to update the underlying criteria with "the fundamental information on the DO requirements" of the organisms, we continue to have concerns that Ecology continues to move forward without seeking or incorporating information on the dissolved oxygen needs of the organisms present in Puget Sound.

Ecology support materials in the natural conditions rule proposal documents (Chapter 173-201A WAC) refer to fish species from New Zealand, which exist in a completely different ecosystem—particularly as it relates to temperature. In previous discussions on the development of the Puget Sound Nutrient General Permit, Ecology defended the existing criteria by pointing to a 2008 study that reviewed scientific literature on many species that do not exist in the Puget Sound and at temperatures not found in the Puget Sound (ie, from the Atlantic and Gulf coasts of the U.S., the Mediterranean Sea, and even brackish ponds in Australia). We couldn't find any data from experiments conducted on the U.S. West Coast organisms in the relied-on 2008 study. We know that high water temperatures (outside of the observed

range in WA marine waters) can increase species sensitivity to low DO. It is problematic to use the results from these inapposite regions as a rationale for the marine DO criteria in WA.

The technical support document literature review regarding the marine DO proposal included information from past DO studies performed in New Zealand to determine protective aquatic life criteria in the waters of New Zealand. Logically, they studied the DO oxygen needs of fish present in New Zealand. Similarly, the review references data on the behavior of zooplankton species present in the eastern tropical North Pacific Ocean, which extends from Mexico to Peru, but does not provide any analysis indicating how relevant that behavioral observation may or may not be for zooplankton species present in the Puget Sound.

Given that average temperatures of the waters around New Zealand and South America are considerably warmer than the average temperatures of the Puget Sound, one might expect species to have adapted differently in those waters. We know that high water temperatures can increase species sensitivity to low DO, so it is problematic to use the direct results from these regions as a rationale for the marine DO criteria in WA.

This is not just an academic concern. The technical support document for the natural conditions rulemaking recognizes the projected impacts of future climate change on DO conditions in marine waters, indicating more challenges as climate change accelerates. It is now more critical than ever to utilize the best available science to understand what actions are necessary to protect the health of species residing in the Puget Sound. This need is further reinforced by concerns raised in the comments received on the natural conditions rulemaking from non-governmental organizations that seem to indicate questions about the legality, and potential litigation, of any natural conditions allowance. In this environment of uncertainty, it is prudent to ensure that we are informed by the most contemporary science about the needs of the specific species we are trying to protect.

AWC requests Ecology update the science on the dissolved oxygen needs of marine organisms in Puget Sound. We request a review of the anthropogenic and non-anthropogenic causes and impacts of low dissolved oxygen conditions on site-specific organisms present in each of the watersheds and basins of the Salish Sea. In addition, we ask Ecology to identify data gaps and recommend, if appropriate, additional science needed to fill those gaps. Through this process, please clarify how the agency compares scientific literature relating to the DO needs of marine organisms in other parts of the world to make determinations on needs of organisms present in the Puget Sound.

We request Ecology update the marine dissolved oxygen standard if the current standard is not supported by data and best practices identified through this review. This update should include reviewing whether the numeric criteria are both protective of designated uses, and not unduly over conservative and directing an excessive level of public investment in nutrient reduction than is needed to protect the organisms of the Puget Sound.

Thank you again for the opportunity to provide comment.

Carl Schroeder
Deputy Director of Government Relations

Association of Washington Cities