

# Windward Environmental

Thank you for the opportunity to review and comment on Ecology's draft work plan for the Triennial Review of Washington Surface Water Quality Standards. We also appreciated the webinar held by Ecology on September 9, 2021. Windward would like to offer comments on Aquatic Life Criteria Strategies (page 5 of Ecology's 2021 Triennial Review of Surface Water Quality Standards: Draft Work Plan to Update Water Quality Standards for 2022-2024) and the process for public involvement/participation in the triennial review.

Windward is in favor of Ecology's Option 1 or Option 2 for Aquatic Life Criteria Strategies. There have been many improvements to the understanding of bioavailability and toxicity since the 1992 National Toxics Rule—the basis for many of Washington's aquatic life criteria—that are unique to metals and warrant careful consideration. We are concerned that these issues might get lost, muddled, or bogged down in the "all at once approach" of Option 4, as happened in the last triennial review with the "tricky" chemicals for human health water quality criteria.

Windward also supports a public involvement process that includes some webinar/training for the public and stakeholders that focuses on the science supporting newer metals criteria. We fully support adoption of the copper biotic ligand model (BLM), which is the basis for EPA's copper aquatic life ambient water quality criteria and for aquatic life criteria in Idaho and Oregon. BLMs have also been developed for several other metals, including cadmium, lead, nickel, and zinc. The BLM combines a mechanistic understanding of toxicity processes with site-specific chemistry data to improve predictions of bioavailability. Appropriate introduction to the tool and how to use it are critical to earning the confidence and support of the Ecology team, the regulated community, and the public. Windward hosts the BLM on our website, where it is freely available to the public. We can also offer support to Ecology by meeting with Ecology staff and/or providing an educational webinar on the BLM that includes practical considerations for its use, such as appropriate collection and organization of chemistry data.

Lastly, Ecology may already be aware that EPA has a Cooperative Research and Development Agreement with several metals associations, with the objective of developing updated bioavailability-based metals criteria. Different metals bioavailability models are being considered, including the BLM and multiple linear regression (MLR)-based approaches. This ongoing process may be useful to Ecology as it considers approaches for developing updated metals criteria.

Thank you for your consideration, and Windward looks forward to updates to and opportunities to participate and support Ecology in the triennial review process.