

**Presentation Type:** Platform

**Track:** Aquatic Toxicology and Ecology

**Session:** Refining methods for conducting laboratory whole-sediment toxicity tests

**Abstract Title:**

**Inter-lab testing of *Hyaletella azteca* water and sediment methods: 1 Summary of 10- to 42-d data from 25 laboratories**

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**Abstract:**

Over the past four years, USEPA Duluth, USGS Columbia, the Illinois Natural History Survey, and Environment Canada have been conducting studies to refine the USEPA and ASTM International methods for conducting 10- to 42-d water or sediment toxicity exposures with the amphipod *Hyaletella azteca*. However, in advance of revising the methods for conducting water or sediment tests with *H. azteca*, we would like to determine if additional laboratories following these revised methods can also demonstrate improved performance of *H. azteca*. A total of 25 laboratories volunteered to participate in an inter-laboratory study to evaluate *H. azteca* 10- to 42-d sediment or water exposures. The goals of the inter-laboratory study are to: (1) Determine whether the proposed new diets and water requirements will result in strong growth/reproduction of *H. azteca* in exposures across a range of laboratories, (2) Determine whether use of the new diets/water will support increases in minimum control performance of *H. azteca* (e.g., weight, reproduction), (3) Determine if there are other diets or waters that are better than those being proposed. Minimum treatments that each participating laboratory tested in a control water with >15 mg Cl/L and >0.02 mg Br/L in 300-mL beakers using the water-only method included: (1) Ramped diet of diatoms (*Thalassiosira*) + ramped diet of Tetramin with a sand substrate, (2) Diet of Yeast-cerophyl-trout chow (YCT) + ramped diet of Tetramin with a sand substrate. Additional treatments that laboratories were encouraged to test included: (1) One or both of the new diets tested with a control sediment, (2) An alternate diet or water, (3) Other treatments of interest to the participating laboratory (e.g., different strains of *H. azteca*, smaller exposure chambers, daily water additions vs. complete replacement water 3 times/week). All treatments involved testing 16 replicates beakers, with 4 replicates dedicated to survival and growth measurement at Day 10, 4 replicates dedicated to survival and growth measurement at Day 28, and the remaining 8 replicates for measurement of survival, growth, and reproduction through Day 42. This presentation will provide an overview of the data from the 25 participating laboratories and will evaluate these data in the context of draft modifications to the USEPA and ASTM *H. azteca* 10- to 42-d sediment or water toxicity testing methods.