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Short- and long- term sediment toxicity test methods with the amphipod *Grandidierella japonica*

Marion G. Nipper, Darrin J. Greenstein, and Steven M. Bay

¹*Southern California Coastal Water Research Project, Long Beach, CA*

ABSTRACT

Methods are described for conducting flow-through sediment toxicity tests with the marine amphipod *Grandidierella japonica*. Short-term (10-d) exposures were conducted at 15°C in 1-liter beakers containing a 2-cm layer of sediment and 700 ml overlying seawater. Long-term (28-d) tests were conducted in 1-liter beakers at 19°C with the weekly addition of food to the test chambers. Both methods were used to measure the toxicity of sediments from five locations in southern California. These sites included highly contaminated areas adjacent to large municipal wastewater outfalls and within industrialized harbors. Both test methods were sensitive to levels of contamination found in the field, but produced different patterns of effects. Short-term mortality was greatest in amphipods exposed to the harbor sediments, while long-term exposure produced the greatest reductions in survival and growth at the Los Angeles County Outfall site. Amphipod survival was unaffected by variations in sediment grain size, while this characteristic appeared to have an important effect on growth.

Keywords: Amphipods *Grandidierella japonica* Toxicity test Sediment Marine Pollution

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