

The effect of heavy metals on laboratory populations of two polychaetes with comparisons to the water quality conditions and standards in southern California marine waters

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ABSTRACT

Polycheatous annelid assays were performed with laboratory inbred cultures of juvenile and adult *Neanthes arenaceodentata* and *Capitella capitata* to cadmium, chromium, copper, lead, mercury, and zinc in sea water. Data were presented 96-h and 28-day LC₅₀ concentrations. Mercury and copper were the two most toxic with zinc and chromium generally the next most toxic followed by lead and cadmium.. The adult stages of both species were more tolerant to these metals than the juveniles. Comparisons of these six metals present in the two large domestic sewage outfalls in Los Angeles County indicate that the amount of copper and zinc present in the effluent exceeds the 28-day LC₅₀ of these two polychaetes. The results were compared to the water quality standards for discharge in the State of California.

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