

## **Trophic structure and pollutant concentrations in marine ecosystems of southern California**

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### **ABSTRACT**

The relationship between trace chemical concentrations and trophic level of fishes and several invertebrates was investigated in four southern California marine ecosystems: the Salton Sea, a saline lake; Newport bay, a back-bay area; the Palos Verdes shelf, a waste-water contaminated coastal zone; and the San Pedro Channel, which contains a coastal pelagic food web. Feeding habitats were investigated and used to assign assumed trophic levels to each species. These assignments were directly related to the cesium/potassium ratio (Cs/K), a possible chemical trophic step indicator. Trophic structure amenable to food web increases of pollutant concentrations was relatively strong in the Salton Sea and coastal pelagic ecosystems and was weaker in the nearshore ecosystems. As expected, organic mercury and the chlorinated hydrocarbons generally increased with increased trophic level; however, other trace metals did not.

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