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Trace Metal Contamination of the Rock Scallop, *Hinnites Giganteus,* near a large southern California municipal outfall

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Abstract

Los Angeles County's submarine discharge of municipal wastewater from the Joint Water Pollution Control Plant (JWPCP) off Palos Verdes Peninsula is the single largest anthropogenic source of trace metals to the marine ecosystem off southern California. The 1974 annucal mass emission rates of chromium, copper, and zinc via this discharge (4.8 x 10^11 l/yr, which underwent primary treatment only) were about 400, 300, and 850 t, respectively; these were approximately 10 times the coreesponding inputs measured in 1971-72 surface runoff from southern California (Young et al. 1973). As a result, bottom sediments around this submarine outfall system are highly contaminated by a number of trace metals (Galloway 1972; Young et al. 1975). Here we report abnormal levels of seven metals in three tissues of the filter-feeding rock scallop, *Hinnities giganteus,* that was collected in the discharge zone and thus had been exposed to suspended wastewater particulates. (The adductor muscle of this bivalve mollusc is considered to be a delicacy, and scallops near the discharge are sought by sport divers.)

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