SCCWRP #0193

Municipal Wastewater Contamination in the Southern California Bight: Part I---Metal and Organic Contaminants in Sediments and Organisms

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ABSTRACT

Sediments and organisms were examined for concentrations of organic and metal contaminants from near the Los Angeles County (JWPCP) municipal outfall at Palos Verdes (PV) station 7-3, the Los Angeles City (Hyperion) municipal outfall at Santa Monica Bay (SMB) station 6-4 emission rates of suspended solids, PCBs, Cd and Zn were similar at the two outfalls. Mas emission rate of copper was almost twice as high from Hyperion as from JWPCP, while mass emission rate of DDTs. Was an order of magnitude higher from JWPCP than from Hyperion.

Surficial sediments at PV 7-3 were enriched in most contaminants relative to the mass emission rates of contaminates from the JWPCP and Hyperion outfalls. Some of this enrichment could be accounted for by the greater accumulation of organic material, measured as total volatile solids, at PV 7-3 relative to SMB 6-4. Some might be accounted for by resurfacing of more contaminated historical deposits buried at PV 7-3. Some of the enrichment of DDTs relative to PCBs could be accounted for by the greater abundance of oxygenated metabolites of PCBs (PCBols) relative to DDTs (DDTols) in sediments

The degree of contamination of organisms by DDTs increased with proximity to PV 7-3 but contamination by PCBs was similar at PV 7-3 and SMB 6-4. DDT concentration in fish livers ranged from 12 +- 4