

SCCWRP #156

Chlorinated Hydrocarbon Contaminants in the Southern California and New York Bights

David R. Young

Southern California Coastal Water Research Project, Long Beach, CA

ABSTRACT

Submarine discharge of municipal wastewater has been the dominant source of several important chlorinated hydrocarbons to the southern California Bight. Seawater concentrations of PCB's and DDT's near the urban coast seldom exceed a few parts per trillion; in contrast, concentrations in surface sediments in the vicinity of Los Angeles outfalls range to 10 parts per million and 100 parts per million, respectively. Contaminated particulates apparently are the dominant mechanism of input and dispersion, and accumulations of these materials on the sea floor bottom are believed to control levels in the benthos. PCB concentrations in muscle tissues of seafood organisms around major outfalls range to approximately 1 ppm, and values for liver tissue are an order of magnitude higher. Mussels suspended at several depths near one diffuser system revealed gradients of PCB and DDT in the water column, with a ten-fold increase from the surface to the bottom. These chlorinated hydrocarbons are concentrated by organisms at higher trophic levels. Also, relatively high PCB concentrations have been reported in the New York Bight. The severe contamination of Hudson River sediments by PCB wastes may lead to extensive and persistent contamination of the New York Bight and the Hudson River estuary.

Due to distribution restrictions, the full-text version of this article is available by request only. Please contact pubrequest@sccwrp.org to request a copy.