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DDT, PCB and Chlorinated Benzenes in the Marine Ecosystem off southern California

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INTRODUCTION

The Southern California Bight has been as seriously contaminated by chlorinated hydrocarbons as any coastal marine ecosystem in the world. Massive quantities of DDT residues released by one of the largest manufacturers of this pesticide have been implicated in the reproductive failure of local marine birds and mammals,¹⁻³ and total PCB concentrations average 1 to 2 mg/wet kg (ppm) in muscle tissue of flatfish around the largest municipal outfalls. Recently, we have identified another class of chlorinated hydrocarbons, chlorinated benzenes (CBs), at relatively high levels in major municipal wastewaters discharged to the Bight. In addition to being important products of the chemical industry,⁵ certain chlorinated benzenes have been found in rainwater⁶ and various drinking waters.⁷⁻¹⁰ They have also been identified as products of wastewater chlorination.¹¹ Here we summarize our findings on DDT and PCB inputs, distributions and impacts in the Bight, and compare them with results obtained to date on chlorinated benzenes in this ecosystem.

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