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DDT and PCB in flatfish around southern California municipal outfalls

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ABSTRACT
The submarine discharge of municipal wastewater has caused extensive DDT and PCB contamination of the marine ecosystem off southern California, known as the Southern California Bight.[1,2,3] Since 1971 we have been investigating the degree and extent of this contamination, utilizing marine bioindicators. One species studied is the Dover sole (Microtomus pacificus), a pleuronectid flatfish which is commonly found around several major outfall systems. In past years, approximately half of the individuals of this species trawled from the Los Angeles County JWPCP* discharge zone off Palos Verdes Peninsula (Figure 1) have exhibited distinct fin erosion disease. The Palos Verdes Shelf has also received the largest discrete input sof DDT and PCB wastes. The possible relationship between this chlorinated hydrocarbon and flatfish fin erosion is discussed in detail elsewhere. However, the outfall systems of Los Angeles City (Hyperion) and Orange County (OCSD) have also been significant sources of PCB. Here we report the spatial and temporal distribution of DDT and PCB residues in Dover sole collected from the vicinities of principal municipal wastewater discharges to the Bight, as well as from a coastal and an island control site Concentrations of this bioindicator are also compared.