SCCWRP #0068

# Metal contamination of flatfish around a large submarine outfall

Deirdre J. McDermott[1], George V. Alexander, David R. Young[1], and Alan J. Mearns[1]

[1]*Southern California Coastal Water Research Project, El Segundo, CA*

**ABSTRACT**

In Southern California approximately one billion gal of municipal wastewaters are discharged daily to the adjacent marine ecosystem. More than one-third of this wastewater (370 mgd) is discharged through JWPCP outfalls off Palos Verdes Peninsula, a site which receives little natural input of freshwater. During the last 3 decades relatively large quantities of trace metals, chlorinated hydrocarbons, and other potential pollutants have been released from this outfall system resulting in extensive contamination of bottom sediments on the Palos Verdes Shelf. This paper discusses seven trace metals that are waterwater constituents of great concern at present (silver, cadmium, chromium, copper, nickel, lead, and zinc), and reports findings regarding the degree to which one benthic fish, the Dover sole (*Microstomus pacificus)* , found in abundance around these outfalls, has been contaminated by trace metals from this wastewater discharge. The Dover sole is a particularly appropriate organism for this study because it is widely distributed along the southern California coast and can usually be obtained by trawl in relatively large numbers from the bottom sediments around submarine outfalls. In addition, this flatfish is affected by fin erosion disease at a high frequency around the largest discharges and appears to exhibit the detrimental effects of the disease to a greater degree than any other species examined.