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Comparability of bioaccumulation within the sanddab guild in coastal Southern California

M.J. Allen¹, S. L. Moore¹, S. B. Weisberg¹, A.K. Groce², M.K. Leecaster¹

¹*Southern California Coastal Water Research Project, Westminster, CA*

²*City of San Diego, Municipal Wastewater Department, San Diego, CA*

ABSTRACT

Most assessments of fish contamination in Southern California use ecologically different species from different sites. Use of ecologically similar species (a guild) might provide better assessments of fish contamination across different sites and depths. In July-August 1997, we collected samples of four sanddab guild species at 22 sites where species pairs co-occurred and determined total DDT concentrations in homogenized whole fish composites. Log-transformed DDT concentrations were highly correlated among all species pairs within this guild. All relationships were linear over the range observed, with slopes not statistically different from unity. The variability in response among species was about four times the variability encountered among replicates within species, but 15 times smaller than the variability among sites. Together, these results suggest that the sanddab guild, widespread on soft bottoms of the Southern California coastal shelf, can be used as a “superspecies” in bathymetrically diverse regional assessments of fish tissue contamination.

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