SCCWRP #0293

Pollutant flow through the food web of Los Angeles Harbor – A pilot study

D.R. Young, A. J. Mearns, H. W. Puffer, K. L. Duncan, T. K. Jan, R.W. Gossett, R. E. Eganhouse, H.A. Schafer, G.P. Hershelman, L. A. Alderson

Southern California Coastal Water Research Project, Long Beach, CA

EXECUTIVE SUMMARY

Diets of four species of marine animals (gaper clam, *Tresus nuttallii;* Northern anchovy, *Engraulis mordax;* white croaker; *Genyonemus lineatus;* and California halibut, *Paralichthys californicus*) from western Los Angeles harbor, the site of an oil spill, were examined in order to make trophic level assignments for evaluating food web magnification or dimunition of inorganic and organic trace contaminants. In addition, muscle tissue of the animals, and blades of giant kelp (*Macrocystis pyrifera*), a primary producer, were analyzed for the cesium/potassium (Cs/K) ratio (a chemical index of trophic structure). A single brown pelican (*Pelecanus occidentalis*) was also included for analysis of benzo (a) pyrene.

There was a little overlap in diets of the clam and fishes. Assignments, based on a little overlap in diets of the clam and fishes. Assignments, based on a conventional scale of I (primary producers) to V (tertiary carnivores), were: giant kelp (I); gaper clam (II-III); Northern anchovy (III); white croaker (III-IV); and California halibut (IV). Median Cs/K values increased with assigned trophic level (0.07, 1.84, 2.10, 2.92, and 3.49 * 10^-6, respectively).