

CHARACTERISTICS AND CONTAMINANTS OF THE SALTON SEA SEDIMENTS

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The study conducted by LFR Levine Fricke included collection of sediment samples from 73 separate locations within Salton Sea. The sediment sampling assessed and measured contaminant concentrations and evaluated particle size distribution in the bottom sediment of Salton Sea using both surface sediment grab samples and core sediment samples which provided information to sediment depths up to approximately 6 feet. This sampling effort encompassed the entire Sea plus approximately 1 mile up each of its three main tributaries: the Whitewater, the Alamo, and the New rivers.

Chemicals found at elevated concentrations and of potential ecological concern were cadmium, copper, molybdenum, nickel, zinc, and selenium. Selenium and molybdenum were found to be the most elevated inorganic constituents relative to background concentrations. Concentrations of selenium in general were elevated over much of the northern half of the Sea. The highest chemical concentrations (such as selenium, cadmium, and copper) were generally limited to the upper 1 foot of sediment.

The most common organic compounds found at the Sea included volatile organic compounds (acetone, 2-butanone, carbon disulfide) that appear to be associated with natural biological processes occurring within Salton Sea sediment. One of the most significant findings of this study was the number of organic chemicals commonly used in agriculture earlier this century that were not detected at elevated concentrations, such as DDT. Chemicals not detected above the laboratory detection limit in sediment samples include many semivolatile organic compounds, chlorinated pesticides and PCBs, organophosphate and nitrogen pesticides, and chlorinated herbicides.