



Current Pollutant Loads and Trends

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Ecology & Environment

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As of 1991, 5,000 to 40,000 tons of pollutants were finding their way into the Estuary each year, and the amount has likely increased since then with the recent population growth and development. The greatest uncontrolled sources are untreated urban and agriculturally runoff, although stormwater control and watershed management programs increased dramatically with new regulations under Clean Water Act amendments. Over the past eight years, most contaminant concentrations have remained constant, with some seasonal and annual fluctuations.

Several long-term trends have emerged, however. Arsenic in the sediments at the confluence of the Estuary's main rivers appears to be on the rise, for example. PCB concentrations in Central Bay water and sediments appear to be decreasing. Diazinon, a common orchard and garden pesticide, is turning up throughout the estuarine ecosystem at concentrations lethal to sensitive organisms. Mercury from abandoned mines and selenium from agricultural drainage continue to be a problem upstream.

The largest biological effects resulting from Estuary pollution are observed in the North Bay region at the Napa River, Suisun Bay and the confluence of the Sacramento and San Joaquin rivers (where trace metals from mine runoff may have accumulated in sediments and where pulses of pesticides from farm drainage converge). The incidence of biological effects is generally lower in the Central Bay — flushed daily by strong tidal action — and moderate in the South Bay (an enclosed, shallow area where pollutants may concentrate).

Pollution Source Reduction

Pollution prevention efforts aimed at ferreting out the sources of specific problem pollutants and reducing their inputs to municipal sewage and stormwater systems continue. Examples from recent years are multifold. In the East Bay, EBMUD pretreatment outreach to radiator shops, dry cleaners, photo processors, electroplaters and other target sources has helped reduce the levels of six metals in the district's discharges. In the North Bay, three oil refineries have been researching and pilot

testing selenium source reduction and removal technologies to meet S.F. Regional Board requirements to cut selenium discharges in half by 1998. In the South Bay, community pressure from the CLEAN South Bay Coalition has spawned 112 pollution prevention audits of Silicon Valley metal finishing, disk manufacturing and circuit board industries since 1993. Audits showed metal recovery, rinsewater recycling and other measures could reduce copper and metal pollution by 60-99% and pay for themselves within five years. Since then, with technical and financial assistance from the coalition and local municipalities, many industries have substantially implemented source reduction measures. In 1996, for example, the Palo Alto Regional Water Quality Control Plant helped a number of circuit board manufacturers significantly reduce copper discharges. In the Delta region and upstream, metal loads to the Sacramento River have been significantly reduced by construction of abatement facilities at Iron Mountain mine and other sites in the upper watershed.

Excerpted from *State of the Estuary , 1992—1997* (San Francisco Estuary Project: 1997), p. 41.

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