

**Review of Existing Water Quality Characteristics
of Upper Newport Bay, Orange County CA and its Watershed¹**

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Executive Summary

As part of an upper Newport Bay watershed-based water quality evaluation and management program a review of existing information on the water quality characteristics of Upper Newport Bay has been conducted. A summary of the findings is presented below.

Aquatic Toxicity

Previous studies (conducted in late 1992 and early 1993) on San Diego Creek waters as they enter Upper Newport Bay show that aquatic life toxicity was measured in the Creek waters. These studies were limited to two samples, where the cause of this toxicity was not identified. Further, chemical analysis of tributary waters and Bay waters has shown that the concentrations of some heavy metals with potential to cause aquatic life toxicity, were present in excess of United States Environmental Protection Agency (U.S. EPA) water quality criteria. There is, therefore, a potential that these exceedances of the water quality criteria may represent toxic conditions to aquatic life in the waters where they occur. Further studies are needed to determine whether San Diego Creek waters entering Upper Newport Bay are toxic to aquatic life. If toxicity in the Creek waters is found, then the significance of this toxicity to aquatic life within San Diego Creek and Upper Newport Bay should be evaluated. If toxicity is judged to be significant with respect to potentially impairing the beneficial uses of Upper Newport Bay and/or San Diego Creek waters, then the cause of this toxicity and the sources of the constituents that cause the toxicity should be identified and, if possible, controlled at the source.

¹Reference as: Lee, G.F. and Taylor, S. "Review of Existing Water Quality Characteristics of Upper Newport Bay and its Watershed" Report to Silverado, Irvine, CA Submitted by G. Fred Lee & Associate, El Macero, CA, June (1997).

Overall Water Quality of Upper Newport

Overall, Upper Newport Bay Is Experiencing Significant Water Quality Impairment Due to:

- Excessive Accumulation of Hazardous Chemicals in Aquatic Life Tissue That Causes Organisms to Be a Threat to Those Who Eat Them
- Excessive Fertilization That Causes Algal Growth That Impairs Recreational Use of the Bay
- Excessive Siltation That Causes Shoaling That Impairs Boating and Changes the Distribution of Aquatic Plant Communities That Develop in the Bay
- Excessive Litter That Impairs Use of Bay Nearshore Waters
- Impairment of Sanitary Quality of Upper Newport Bay That Increases Risk of Disease to Those Who Contact-Recreate in Bay Waters
- Restricted Shellfish Harvesting Due to Poor Sanitary Quality
- Maybe a Sediment Toxicity Problem-Need Further Study

Overall Water Quality of Upper Newport Bay

(continued)

Review of Existing Evaluation Monitoring Water Quality Data Shows That There Are Insufficient Data to Determine If Real Aquatic Life Toxicity-Related Water Quality Impairment Occurs

"Excessive" Levels of Heavy Metals in Tributary Discharges to Upper Newport Bay Relative to Water Quality Criteria

No Information on Whether Heavy Metal Exceedances Represent Toxicity or "Administrative Exceedances" of Water Quality Criteria