

**APPENDIX D
ATTACHMENT TO RESOLUTION NO. R8-2003-039**

Amendment to the Santa Ana Region Basin Plan

Chapter 5 - Implementation Plan, Discussion of Newport Bay Watershed (page 5-41 *et seq*)

5.4 Toxic Substances Contamination

Aquatic toxicity in San Diego Creek and Upper Newport Bay causes adverse impacts on the established beneficial uses of those waterbodies.

A report prepared by Regional Board staff describes the aquatic life toxicity problems in San Diego Creek and Upper Newport Bay in greater detail and discusses the technical basis for the TMDL that follows¹. The TMDL addresses toxicity due to diazinon and chlorpyrifos in San Diego Creek and chlorpyrifos in Upper Newport Bay. Implementation of this TMDL is expected to address, to a significant extent, the occurrence of aquatic life toxicity in these waterbodies. Reduction in aquatic life toxicity will help assure attainment of water quality standards, that is, compliance with water quality objectives and protection of beneficial uses.

5.4.a Diazinon and Chlorpyrifos TMDL

Table 5-9i shows the TMDL and the allocations for diazinon and chlorpyrifos in San Diego Creek.

Table 5-9i. Diazinon and Chlorpyrifos Allocations for San Diego Creek

Category	Diazinon (ng/L)		Chlorpyrifos (ng/L)	
	Acute	Chronic	Acute	Chronic
Wasteload Allocation	72	45	18	12.6
Load allocation	72	45	18	12.6
MOS	8	5	2	1.4
TMDL	80	50	20	14

MOS = Margin of Safety; Chronic means 4-consecutive day average

Table 5-9j shows the TMDL and the allocations for chlorpyrifos in Upper Newport Bay.

Table 5-9j. Chlorpyrifos Allocations for Upper Newport Bay

Category	Acute (ng/L)	Chronic (ng/L)
Wasteload allocation	18	8.1
Load allocation	18	8.1
MOS	2.0	0.9
TMDL	20	9

MOS = Margin of Safety; Chronic means 4-consecutive day average

¹ Diazinon and Chlorpyrifos TMDL, Upper Newport Bay and San Diego Creek, February 21, 2003

The TMDL and its allocations contain an explicit 10% margin of safety. In addition, a substantial margin of safety is implicitly incorporated in the TMDL through use of conservative assumptions

5.4.a.i TMDL Implementation

Table 5-9k outlines the tasks and schedules to implement the TMDL.

Table 5-9k. TMDL Task Schedule

Task No.	Task	Schedule	Description
1	Revise Discharge Permits	2005	WDR and NPDES permits will be revised to include the TMDL allocations, as appropriate.
2	Pesticide Runoff Management Plan	2004	A pesticide runoff management plan will be developed
3	Monitoring	2003	Modify existing regional monitoring program to include analysis for organophosphate pesticides and toxicity
4	Special Studies		
4a	Atmospheric deposition	2003	Quantify atmospheric deposition of chlorpyrifos loading to Upper Newport Bay
4b	Mixing volumes in Upper Newport Bay	2003	Model mixing and stratification of chlorpyrifos in Upper Newport Bay during storm events

Task 1: Revise Discharge Permits

The TMDL allocates wasteloads to all dischargers in the watershed. Since the TMDL is concentration-based, these wasteloads are concentration limits. The concentration limits will be incorporated into existing and future discharge permits in the watershed. Compliance schedules would be included in permits only if they are demonstrated to be necessary. Compliance would be required as soon as possible but no later than December 1, 2007.

Task 2: Pesticide Runoff Management Plan

A pesticide runoff management plan will be developed for the watershed as a cooperative project between the Regional Board and stakeholders.

Task 3: Monitoring

Routine monitoring is necessary to assess compliance with the allocations specified in the TMDL. The County of Orange, the Cities of Tustin, Irvine, Costa Mesa, Santa Ana, Orange, Lake Forest and Newport Beach, and the agricultural operators in the Newport Bay watershed will be required to propose a plan by January 30, 2004, for routine monitoring to

determine compliance with the TMDL allocations for diazinon and chlorpyrifos. At a minimum, the proposed plan must include the collection of monthly samples at the stations specified in **Table 5-9I** and shown in **Figure 5-2** and analysis of the samples for diazinon and chlorpyrifos. Monthly toxicity tests should also be conducted at several locations in the watershed. Data summaries will be required monthly. An annual report summarizing the data collected for the year and evaluating compliance with the TMDL will be required.

In lieu of this coordinated, regional monitoring plan, one or more of the parties identified in the preceding paragraph may submit an individual or group plan to conduct routine monitoring in areas solely within their jurisdiction to determine compliance with the TMDL. Any such individual or group plans must also be submitted by January 30, 2004. Reports of the data collected pursuant to approved individual/group plan(s) will be required to be submitted monthly and an annual report summarizing the data and evaluating compliance with the TMDL will be required to be submitted by September 1 of each year.

It is likely that implementation of these requirements will be required through the issuance of Water Code Section 13267 letters to the affected parties. The monitoring plan(s) will be considered by the Regional Board and implemented upon the Regional Board's approval.

Task 4: Special Studies

Special investigations are needed to (1) quantify the significance of atmospheric deposition of chlorpyrifos to Upper Newport Bay, and (2) determine the adequacy of the freshwater numeric targets for chlorpyrifos in the tributaries to Upper Newport Bay in achieving the lower saltwater numeric target. The existing hydrodynamic model for Newport Bay is being used to perform simulations that predict contaminant concentrations in the Bay based on various flow and management scenarios. The model results can be used to verify whether the numeric targets for chlorpyrifos in the watershed will be sufficient to achieve the TMDL in Upper Newport Bay. One of the questions to be addressed is the magnitude of toxic exposure that could result from development of a freshwater lens associated with the discharge of stormwater to Upper Newport Bay.

5.4.a.2 Adjust TMDL

Based on the results of the special studies and recommendations made in the Pesticide Runoff Monitoring reports, changes to the TMDL may be warranted. Such changes would be considered through the Basin Plan Amendment process.

The Regional Board is committed to the review of this TMDL every three years or more frequently if warranted by these or other studies.