

California Regional Water Quality Control Board, Los Angeles Region

**Tissue, Sediment and Benthic Infauna Data
Mugu Lagoon**

Summary of Proposed Action

New Proposed Listings

- “Not Supporting” (Impaired) for benthic community degradation due to community assessment.

New Proposed Delistings

- Delist dacthal in tissue as there are no approved guidelines.

These actions all affect the aquatic life beneficial uses.

Table 1. 303(d) Listing/TMDL Information

Waterbody Name	Mugu Lagoon	Pollutants/Stressors	See Above
Hydrologic Unit	403.11	Source(s)	Historical use of pesticides and lubricants, stormwater runoff and aerial deposition from urban and agricultural areas.
Total Waterbody Size	505 ac	TMDL Priority	5
Size Affected		TMDL Start Date (Mo/Yr)	2002
Extent of Impairment		TMDL End Date (Mo/Yr)	2005

Watershed Characteristics

Calleguas Creek and its major tributaries, Revolon Slough, Conejo Creek, Arroyo Conejo, Arroyo Santa Rosa, and Arroyo Simi drain an area of 343 square miles in southern Ventura County and a small portion of western Los Angeles County. This watershed, which is elongated along an east-west axis, is about 30 miles long and 14 miles wide. The northern boundary of the watershed is formed by the Santa Susana Mountains, South Mountain, and Oak Ridge; the southern boundary is formed by the Simi Hills and Santa Monica Mountains.

Land uses vary throughout the watershed. Urban developments are generally restricted to the city limits of Simi Valley, Moorpark, Thousand Oaks, and Camarillo. Although some residential development has occurred along the slopes of the watershed, most upland areas are still open space, however, golf courses are becoming increasingly popular to locate in these open areas. Agricultural activities, primarily cultivation of orchards and row crops, are spread out along valleys and on the Oxnard Plain.

Mugu Lagoon, located at the mouth of the watershed, is one of the few remaining significant saltwater wetland habitats in southern California. The Point Mugu Naval Air Base is located in the immediate area and the surrounding Oxnard Plain supports a large variety of agricultural crops. These fields drain into

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ditches which either enter the lagoon directly or through Calleguas Creek and its tributaries. Other fields drain into tile drain systems which discharge to drains or creeks. Also in the area of the base are freshwater wetlands created on a seasonal basis to support duck hunting clubs. The lagoon borders on an Area of Special Biological Significance (ASBS) and supports a great diversity of wildlife including several endangered birds and one endangered plant species. Except for the military base, the lagoon area is relatively undeveloped.

Supplies of ground water are critical to agricultural operations and industry (sand and gravel mining) in this watershed. Moreover, much of the population in the watershed relies upon ground water for drinking.

Water Quality Objectives Not Attained

Benthic Community Index

Beneficial Uses Affected

Aquatic Life

Data Assessment

Sediment toxicity (94)

Sed chem (97): DDT, chlordane (ERM, PEL)

Tissue (94): chlordane

Tissue (94, 97): DDT (MTRL)

Tissue (97): PCB (MTRL)

Table 2. Summary of Tissue and Sediment Data for Mugu Lagoon

Dates of Sampling	2/8/94 4/14/94 6/12/94 2/6/97 7/16/97
Number of Samples (n)	1994: 3 (sediment) + 1 (fish tissue) + 1 (mussel tissue) 1997: 6 (sediment) + 1 (fish tissue)
Minimum Data Value	Total chlordane (sed): 3.3 ppb Total DDT (sed): 64.7 ppb Total chlordane (tis): nd p,p'-DDD (tis): nd p,p'-DDE (tis): 43 ppb p,p'-DDT (tis): nd dieldrin (tis): nd toxaphene (tis): nd
Maximum Data Value	Total chlordane (sed): 12.97 ppb Total DDT (sed): 276.8 ppb Total chlordane (tis): 28.5 ppb p,p'-DDD (tis): 54.6 ppb p,p'-DDE (tis): 325 ppb p,p'-DDT (tis): 120.9 ppb dieldrin (tis): 4.7 ppb toxaphene (tis): 468 ppb
Median Data Value	

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Arithmetic Mean Value	
Standard Deviation	
Number (Percent) above Objective	Sediment toxicity: 2 (67 %) Chlordane (sed): 6 (100 %) DDT (sed): 6 (100 %) Chlordane (tis): 1 (33 %) DDTs (tis): 5 (56 %)

This table may summarize additional data not relevant to this factsheet that supports a continued listing for this waterbody.

Potential Sources

Historical use of pesticides and lubricants, stormwater runoff and aerial deposition from urban and agricultural areas.

References

Bay Protection and Toxic Cleanup Program database
Toxic Substances Monitoring Program database
State Mussel Watch Program databases database