

FS # 2934, LOE# 3452

FS # 2939, LOE# 3458

CCRWQCB, 2004 M
includes smw Data

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**Region 3 – Regional Water Quality Control Board
Data Submissions and Corrections for the 2004 303(d) list**

1) Describe the reason(s) the listing is inappropriate.

Proposal to Delist "Monterey Bay – South (shoreline)" for both Metals and Pesticides. The existing 1994 listing is based partly on State Mussel Watch (SMW) metals data from within Monterey Harbor (which is separately listed and will remain on the List for Metals) and partly on SMW pesticides data that was compared to Elevated Data Levels (EDLs – which are now considered inappropriate comparison values). The pesticide data from 1988 to present does not exceed current applicable guidance values and, in fact, the only station sampled since 1988 is the station that is used by the SMW program as a reference site for the central coast (presumed to be relatively unimpaired).

2) Provide the data and information necessary to enable SWRCB to conduct a complete reassessment.

Please see attached. Attachment A for metals, Attachment B for pesticides.

- a. Name of the person or organization providing the information;
Regional Water Quality Control Board, Region 3
- b. Mailing address, phone number, and email address of a contact responsible for answering questions about the information submitted;
**895 Aerovista Place, Ste. 101
San Luis Obispo, CA 93401
805-549-3147
skeeling@rb3.swrcb.ca.gov
Staff person: Shanta Keeling**
- c. Bibliographic citations for all published information provided;
see attached documentation
- d. To the extent possible, all information should be submitted in electronic format (e.g., Microsoft [MS] Word, Access database, Excel spreadsheet, ASCII, or Adobe Acrobat files);
File attached as part of this Fact Sheet (in MS-Word format)
- e. Detailed quality assurance and quality control information about sampling and analysis of all numeric data;
All data collected by State Mussel Watch program, follows their QA
- f. Water body name and California water body identification number (available from local RWQCB). The preferred statewide Geographic Information System (GIS) projection is the California Teale Albers, NAD27. Please refer to the following web site for details on the Teale Albers projection for GIS information: <http://gis.ca.gov/albers.epl>;
Monterey Bay – South: 3309.5004

- g. Geographic extent of the potential water quality limited segment;
Monterey County (offshore)
 - h. Pollutant(s) of concern;
Metals and Pesticides
 - i. Applicable water quality objective or criterion;
OEHHA and USEPA tissue guidance values
 - j. Comparison of results against applicable water quality objective or criterion;
see attached
 - k. Designated beneficial use(s) that may be impacted by pollutant(s);
None impacted (proposal to Delist)
 - l. Complete background information (metadata) for field data (i.e., when and where measurements were taken, number of samples, detection limits, etc.); and
State Mussel Watch data from 1988 through 1997
 - m. Full identification of any citizen volunteer water quality monitoring efforts including:
 - 1) The name of the group;
Not applicable
 - 2) A description of any training in water quality assessment completed by members of the group.
Not applicable
3. Make sure all numeric data submitted in support of new listings or changes to existing listings, can be evaluated to address the following:
- a. data quality assurance assessment(s); *or if non-numeric, the types of observations;*
 - b. spatial representation;
 - c. temporal representation;
 - d. age(s) of the data;
 - e. effects of seasonality;
 - f. effects of any events that might influence data evaluation (e.g., storm events, flow conditions, laboratory data qualifiers, etc.);
 - g. the total number of samples;
 - h. the number of samples exceeding standards;
 - i. the source or reference for samples;
 - j. the potential sources of pollutants; and
 - k. any program that might address the water quality problem in lieu of a TMDL.

**Attachment A – Proposal to Delist Monterey Bay - South for Metals
Prepared by: Central Coast Regional Water Quality Control Board**

Introduction

Monterey Bay – South was added to California’s section 303(d) List in 1994 for impairment by metals. This document reviews that listing and proposes to remove Monterey Bay South - Metals from the 303(d) List because no metals impairment exists outside of Monterey Harbor and Monterey Harbor is on the 303(d) List as a separate metals impairment listing (and will remain on the list).

Beneficial uses

The *Water Quality Control Plan, Central Coast Basin – Region 3* (the Basin Plan) identifies various beneficial uses for Monterey Bay - South (the segments labeled Pacific Grove Marine Gardens and Hopkins Marine Life Refuge both outside of Monterey Harbor, which is listed separately on California’s 303(d) List), as depicted in Table 1, below:

Table 1: Beneficial Uses for Monterey Bay - South

Designated Beneficial Uses of Monterey Bay - South
Rare, Threatened, or Endangered Species (RARE)
Biological Habitat of Special Importance (ASBS)
Wildlife Habitat (WILD)
Water Contact Recreation (REC-1)
Non Contact Water Recreation (REC-2)
Marine Habitat (MAR)
Commercial and Sport Fishing (COMM)

Basis of 1994 Listing and Available Data

Regional Board files indicate State Mussel Watch Program data from 1982 through 1993 was used as the basis for listing Monterey Bay – South for metals impairment. The available data from 1982 through 1993 were compared to Elevated Data Levels (EDLs) and Median International Standards (MIS). EDLs are no longer considered valid guidelines for determining attainment of water quality standards. The MIS values that were used as indicator values were derived from freshwater fish and therefore were not appropriate comparison values for mussel tissue data. MIS values also are not regulatory values or criteria in the United States.

Data Analysis

Subsequent to the 1994 listing, additional State Mussel Watch data from 1994 through 1997 has become available. All of the available data were compiled for this evaluation of Monterey Bay - South with respect to metals impairment.

Historically, the only SMW sampling locations on Monterey Bay - South were within Moss Landing Harbor (Sandholt Bridge station SMW#404.0), within Monterey Harbor, and around Point Pinos/Pacific Grove (multiple stations 1977-87, then only Pacific Grove 1987-1997). Moss Landing Harbor is on the 303(d) List for pesticide impairment and did not meet any listing criteria for metals. Monterey Harbor is on the 303(d) List for the metal lead and did not meet listing criteria for pesticides. Therefore, the only sampling station data available to differentiate Monterey Bay - South

coastline from the other southern Monterey Bay waterbodies on the 303(d) List (Moss Landing Harbor and Monterey Harbor) is the station at Pacific Grove (SMW station 414.0). The listed segment of Monterey Bay is shown in red on Figure 1.

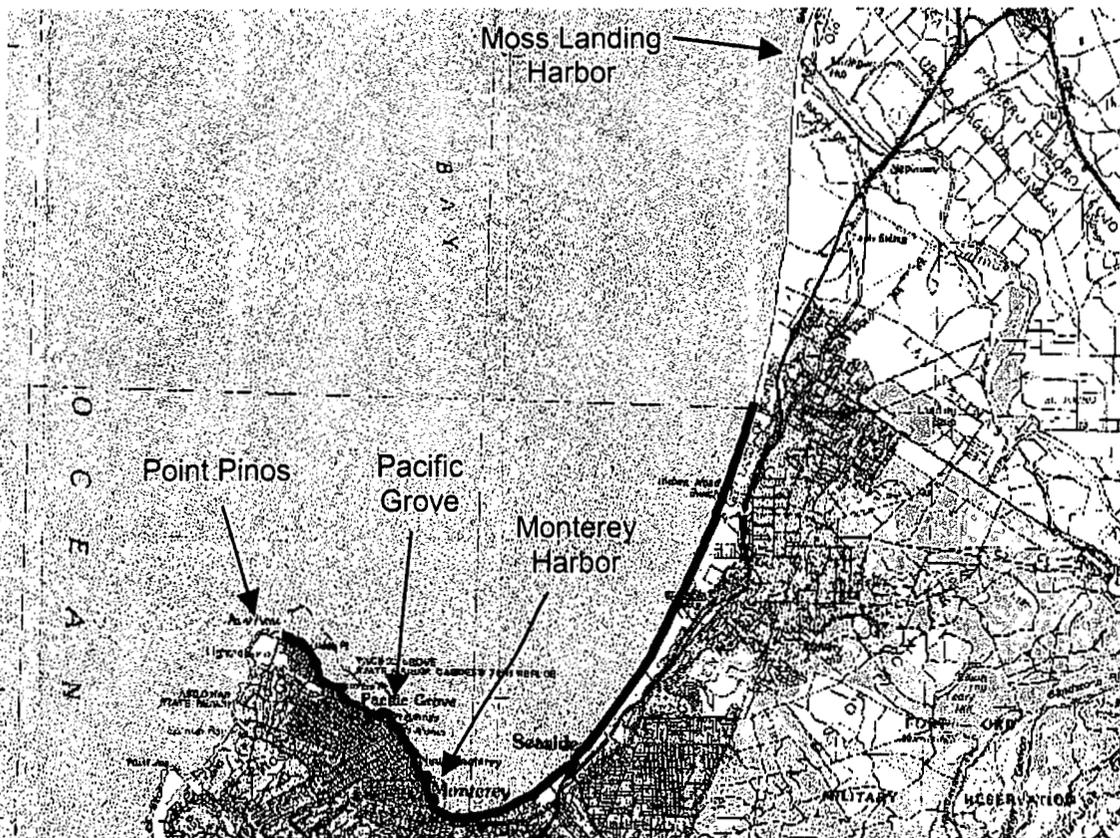


Figure 1. Monterey Bay – South area. Top right of map is Moss Landing Harbor, Point Pinos/ Pacific Grove is in lower left, red line indicates coastline area listed on 303(d) List.

The Pacific Grove SMW station (SMW #414.0) has been monitored annually since 1977 as a reference station for the Mussel Watch program. Table 2 summarizes the most recent ten years of available SMW data for the Pacific Grove sampling location. The table shows the metals documented as the basis for the 1994 listing of Monterey Bay - South, historical maximums, and applicable comparison values for those metals in mussel tissue.

Table 2. Summary of SMW Metals data for Pacific Grove sampling station # 414.0.

Year \ Metal	Arsenic# (ppm)	Cadmium (ppm)	Chromium (ppm)	Selenium (ppm)
Screening value*	1.0 (OEHHA) 3.0 (USEPA)	3.0 (OEHHA) 10.0 (USEPA)	1.0 (MIS)	20.0 (OEHHA) 50.0 (USEPA)
1988	NA	0.90	0.17	NA
1989	2.2	1.4	0.17	0.44
1990	2.9	1.4	0.16	0.39
1991	2.4	1.4	0.83	0.27
1992	1.6	2.0	0.19	0.35
1993	2.4	1.5	0.45	0.38
1994	NA	1.4	0.11	NA
1995	NA	1.2	1.5	NA
1996	NA	1.2	0.91	NA
1997	1.5	0.98	0.36	0.08
1977-87 max+	NA	2.47 (1980)	0.65 (1984)	NA

Notes: all values ppm wet weight unless otherwise specified

*= OEHHA is Cal. Office of Environmental Health, Lakes Study (1999); USEPA is US Environmental Protection Agency screening value as reported in Cal. Lakes Study (1999); MIS is Median International Standard, actually the standard used by Hong Kong (the only one available, thus the "median" value), as reported in SWRCB SMW Data Summary (2000)

= total arsenic

+ = maximum value reported for all stations around Pt. Pinos/Pacific Grove from 1977-87, year of maximum value reported in parentheses

NA= Not Analyzed

As can be seen from Table 2, essentially all of the available data show Monterey Bay - South is not impaired by metals outside of the specific area of Monterey Harbor, which is already separately listed on California's 303(d) List.

The only potential concern is arsenic, which exceeded the Cal-OEHHA screening value in all six of the samples where it was analyzed. However, these six samples were all below the USEPA's screening value for tissue. There are no known potential sources of arsenic in the vicinity of the Pacific Grove sampling location. In fact, the Pacific Grove sampling location was selected as a reference site for the Mussel Watch Program based on a determination that it was likely not significantly impacted by past human activities. Arsenic was not analyzed in the initial mussel watch sampling at Pacific Grove (1977 - 1987 data). In general, the inorganic form of arsenic is the primary human health concern guiding the screening values. Typically only up to about 10% of the total arsenic in marine environments is in the inorganic form. Using this general percentage and the total arsenic values in the database, one can estimate that less than 0.3 ppm of inorganic arsenic is present in any of the mussel samples shown in Table 2, which is less than the pertinent screening values. Because no apparent sources can be postulated, the site is a reference location, the levels of arsenic appear to be consistent over the last 10 years, and the estimated amounts of inorganic arsenic are below 0.3 ppm, the Regional Board concludes that arsenic is not causing any impairment at the Pacific Grove location.

Proposed Delisting

The Central Coast Region proposes to delist the Metals impairment of Monterey Bay - South coastline from the 303(d) List because the available data do not indicate any identifiable metals impairment. This Regional Board proposal will not affect the metals impairment listing for Monterey Harbor, which will remain in effect.

Attachment B – Proposal to Delist Monterey Bay - South for Pesticides Prepared by: Central Coast Regional Water Quality Control Board

Introduction

Monterey Bay – South was added to California's section 303(d) List in 1994 for impairment by metals. This document reviews that listing and proposes to remove Monterey Bay - South Pesticides from the 303(d) List because no pesticide impairment exists outside of Moss Landing Harbor and Moss Landing Harbor will remain on the List as a separate pesticide impairment.

Beneficial uses

The *Water Quality Control Plan, Central Coast Basin – Region 3* (the Basin Plan) identifies various beneficial uses for Monterey Bay- South (the segments labeled Pacific Grove Marine Gardens and Hopkins Marine Life Refuge both outside of Monterey Harbor, which is listed separately on California's 303(d) List), as depicted in Table 1, below:

Table 1: Beneficial Uses for Monterey Bay- South

Designated Beneficial Uses of Monterey Bay - South
Rare, Threatened, or Endangered Species (RARE)
Biological Habitat of Special Importance (ASBS)
Wildlife Habitat (WILD)
Water Contact Recreation (REC-1)
Non Contact Water Recreation (REC-2)
Marine Habitat (MAR)
Commercial and Sport Fishing (COMM)

Basis of 1994 Listing and Available Data

Regional Board files indicate State Mussel Watch Program data from 1982 through 1993 was used as the basis for listing Monterey Bay – South for pesticides impairment. The available data from 1982 through 1993 were compared to Elevated Data Levels (EDLs) and Maximum Tissue Residue Levels (MTRLs). EDLs are no longer considered as valid guidelines for determining attainment of water quality standards. The MTRL values that were used as indicator values were derived from assumed bioconcentration factors and are also no longer considered valid guidelines for determining attainment of water quality standards.

Data Analysis

Subsequent to the 1994 listing, additional State Mussel Watch data from 1994 through 1997 has become available. All of the available data were compiled for this evaluation of Monterey Bay- South with respect to pesticide impairment.

Historically, the only SMW sampling locations on Monterey Bay - South are within Moss Landing Harbor (Sandholt Bridge station SMW#404.0), within Monterey Harbor, and around Point Pinos/Pacific Grove (multiple stations 1977-87, then only Pacific Grove 1987-1997). Moss Landing Harbor is on the 303(d) List for pesticide impairment. Monterey Harbor is on the 303(d) List for the metal lead and did not meet any listing criteria for pesticides. Therefore, the only sampling station data available to differentiate Monterey Bay - South coastline from the other southern Monterey

Bay waterbodies on the 303(d) List (Moss Landing Harbor and Monterey Harbor) is the station at Pacific Grove (SMW station 414.0). The listed segment of Monterey Bay is shown on Figure 1.

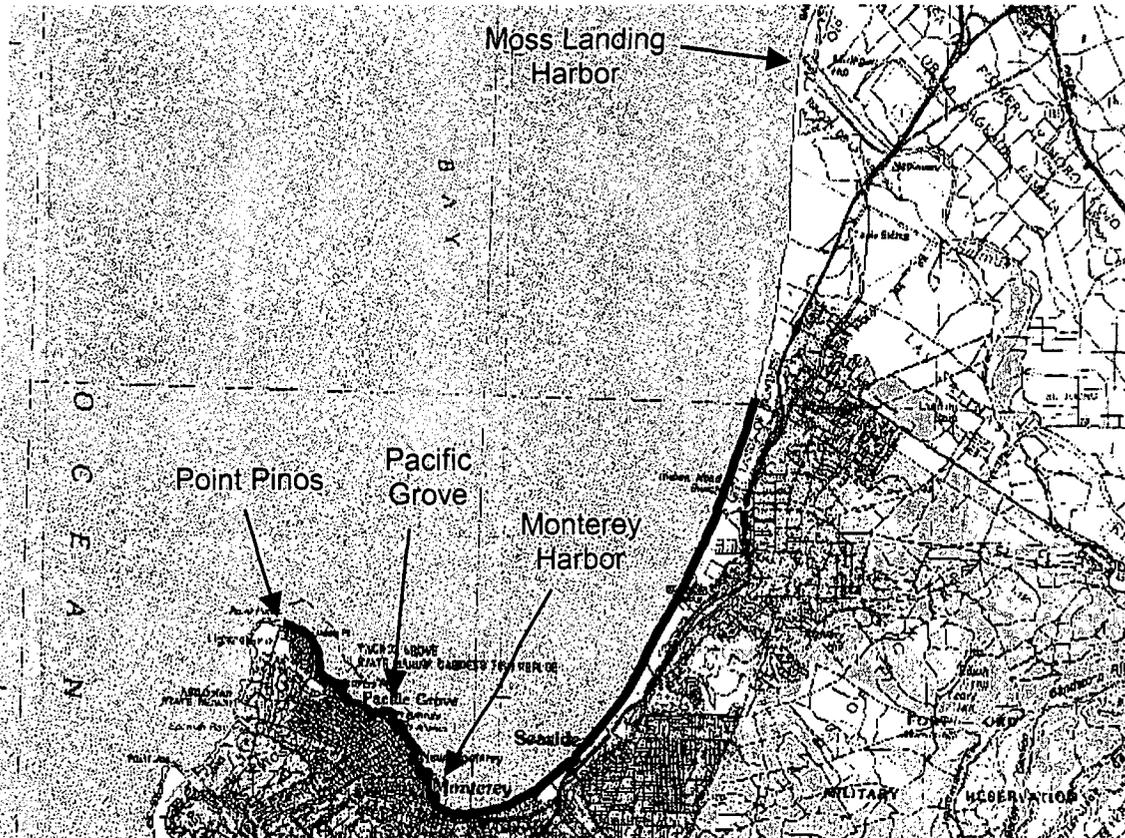


Figure 1. Monterey Bay – South area. Top right of map is Moss Landing Harbor, Point Pinos/ Pacific Grove is in lower left, red line indicates coastline area listed on 303(d) List.

The Pacific Grove SMW station (SMW #414.0) has been monitored annually since 1977 as a reference station for the Mussel Watch program. Table 2 summarizes the most recent ten years of available SMW data for the Pacific Grove sampling location. The table shows the pesticides documented as the basis for the 1994 listing of Monterey Bay - South, historical maximums, and applicable comparison values for those pesticides in mussel tissue.

Table 2. Summary of SMW Metals data for Pacific Grove sampling station # 414.0.

Year\Pesticide	Chlordane (total)	Dacthal	DDT (total)	Dieldrin	Endosulfan (total)	Lindane (gammaHCH)
Screening value*	30 (OEHHA)	Na	100 (OEHHA)	2 (OEHHA)	20,000 (OEHHA)	30 (OEHHA)
1988	0.2	0.4	4.0	1.4	0.9	0.1
1989	1.9	ND	2.8	1.4	0.9	ND
1990	1.0	ND	3.6	0.6	0.8	ND
1991	0.4	ND	2.3	0.3	ND	ND
1992	--	--	--	--	--	--
1993	1.3	0.2	7.1	1.4	ND	ND
1994	0.8	ND	4.4	0.9	ND	ND
1995	1.0	ND	5.5	1.8	ND	ND
1996	1.5	ND	9.0	1.6	ND	ND
1997	0.5	0.3	3.7	1.0	ND	ND
1977-87 max+	4.44 (1979)	0.42 (1981)	16.0 (1981)	2.57 (1984)	5.86 (1984)	0.16 (1979)

Notes: all values ppb wet weight unless otherwise specified

*= OEHHA is Cal. Office of Environmental Health, Lakes Study (1999); USEPA is US Environmental Protection Agency screening value as reported in Cal. Lakes Study (1999); MIS is Median International Standard, actually the standard used by Hong Kong (the only one available, thus the "median" value), as reported in SWRCB SMW Data Summary (2000)

NA = no screening value located (had been listed due to EDLs)

+ = maximum value reported for all stations around Pt. Pinos/Pacific Grove from 1977-87, year of maximum value reported in parentheses

-- = Not Analyzed

ND= Not Detected

As can be seen from Table 2, all of the available data show Monterey Bay - South is not impaired by pesticides outside of the specific area of Moss Landing Harbor, which is already separately listed for pesticides on California's 303(d) List.

Proposed Delisting

The Central Coast Region proposes to delist the pesticide impairment of Monterey Bay - South coastline from the 303(d) List because the available data indicate no impairment exists. This Regional Board also proposal will not affect the pesticide impairment listing for Moss Landing Harbor, which will remain in effect.