

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

504

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

This is a proposal to remove San Luis Obispo Creek from the 303(d) list for priority organics. San Luis Obispo Creek (Creek) was placed on the 1998 303(d) list as impaired from priority organics because levels of PCB, HCH (lindane) and chlordane exceeded MTRLS and EDLs. A total of two tissue samples were used to list the Creek as impaired.

MTRLS and EDLs are no longer considered criteria for placing waterbodies on the 303(d) list. RWQCB staff have therefore developed a listing rationale for organic compounds. The rationale is largely based on efforts by Dave Smith and Peter Kozelka of EPA and their work on the Newport Bay/San Diego Creek toxicity TMDL. The rationale is compiled in a document held in Region-3 titled *Decision Document for the Elkhorn Slough*. The rationale is used herein as support for recommending that the Creek be delisted for priority organics.

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

The objectives and criteria used for analysis are compiled in the table shown in Attachment-B of this document. The table compiles the criteria developed by EPA staff as discussed in bullet number one above.

- 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;
Non-published information used, refer to bullet #1 above.
- 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);
All data and information used in analysis are contained within this document.
- e. Detailed quality assurance and quality control information about sampling and analysis of all numeric data;

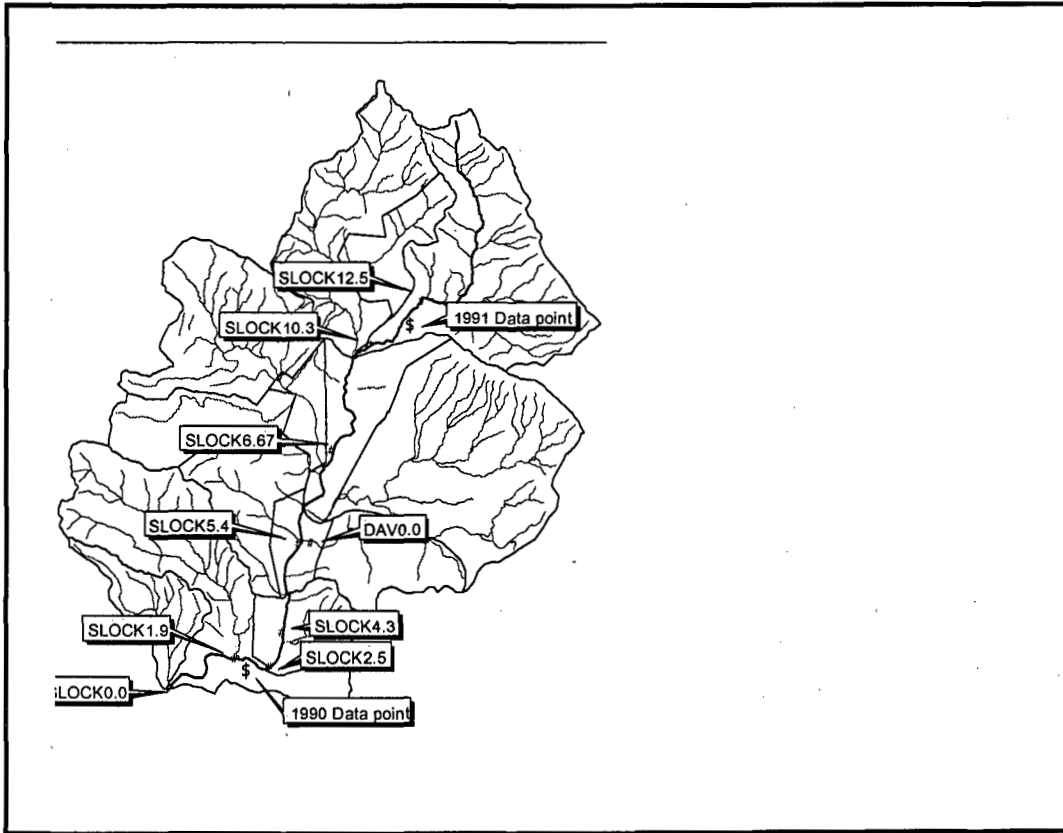
Data used to list collected by State Mussel Watch and Toxics Substance Monitoring programs; QA follows these programs protocols. Water column data collected by RWQCB staff in 2001.

- 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>;
San Luis Obispo Creek-Hydrologic Unit 310.240
 - g. Geographic extent of the potential water quality limited segment;
San Luis Obispo County near and including the City of San Luis Obispo
 - h. Pollutant(s) of concern;
PCB, HCH (Lindane) and Chlordane.
 - i. Applicable water quality objective or criterion;
See table in Attachment-B of this document; the table is a compilation of criterion used by EPA staff for toxicity TMDL development for Newport Bay/San Diego Creek. Criteria based on: OEHHA and USEPA tissue guidance values CTR for water column data
 - j. Comparison of results against applicable water quality objective or criterion;
Results are shown in Attachment-B of this document.
 - 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
See Attachment-A
 - 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: Data

Map illustrating sampling points.



The table below shows the available data. The 1990 and 1991 data were the only data available at the time of the listing; these two data points used to place the Creek on the 303(d) list. Data from 1999 and 2001 were subsequent to the listing, but are presented here to support the delist recommendation.

The data was compared to targets set forth in the Listing Review2004 that is attached; see Tables 7 and 8 in the attached document.

Note from the data presented below that there is only one exceedence of a target. The one exceedence occurred in 1990 and was drawn from fish fillets taken from goldfish.

TISSUE DATA

Date	Site ^a	Pollutant	Sample Type	Concentration	Detection Limit	Criteria (Human) ^c	Criteria (Wildlife) ^c	Exceedence?
				ppb	ppb	ppb	ppb	y/n
07/25/90	San Luis Bay Drive ^a	TotalPCB	TISSUE-FILLETS	226.0	not applicable	20		y
02/26/91	Reservoir Canyon ^b	TotalPCB	TISSUE-CLAMS	14.1	not applicable	20	500	n
09/22/99	San Luis Bay Drive	TotalPCB	TISSUE-WHOLE PERCH	56.0	not applicable		500	n
02/26/91	Reservoir Canyon	Chlordane	TISSUE-CLAMS	17.5	not applicable	30	100	n
09/22/99	San Luis Bay Drive	Chlordane	TISSUE-WHOLE PERCH	2.0	not applicable		100	n
07/25/90	San Luis Bay Drive	HCH	TISSUE-FILLETS	2.5	not applicable	30		n
09/22/99	San Luis Bay Drive	HCH	TISSUE-WHOLE PERCH	2.0	not applicable		100	n
a: San Luis Bay Drive is located about 1 mile upstream from the mouth of the Creek. Fish samples were collected here.								
b: Reservoir Canyon is located in the upper watershed; freshwater clams were transported here, allowed to assimilate surrounding pollutants, then sampled								
c: See attached document "ListingReview2004.doc" for explanation of criteria.								

WATER COLUMN DATA

SITE	DATE	Matrix	ALPHA-BHC ^a	BETA-BHC	DELTA-BHC	GAMMA-BHC	CHLORDANE	TOTAL-PCB
			ppb	ppb	ppb	ppb	ppb	ppb
DAV0.0	4/27/2001	aqueous	ND ^b	ND	ND	ND	ND	ND
SLOCK0.0	4/6/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK0.0	4/20/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK1.9	4/6/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK1.9	4/20/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK2.5	4/6/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK2.5	4/20/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK4.3	4/6/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK4.3	4/20/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK5.4	4/6/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK5.4	4/20/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK6.67	4/6/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK6.67	4/20/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK10.3	4/6/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK10.3	4/20/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK12.5	4/6/2001	aqueous	ND	ND	ND	ND	ND	ND
SLOCK12.5	4/20/2001	aqueous	ND	ND	ND	ND	ND	ND
DETECTION LIMIT (ppb)			0.0025	0.0025	0.0025	0.0025	0.05	0.1
a: BHC equivalent to HCH (Lindane)								
b: ND implies non-detected								

Attachment-B: Comparison of Data to Objectives or Criteria

The tiered approach to data analysis is used to determine if criteria are being exceeded and whether a TMDL is required. The two-tiered approach is discussed in detail in the attached document titled "Listing Review2004," developed by Regional Board and EPA staff.

The table below summarizes the two tiers. In tier-1, data are compared to selected targets and if any target is exceeded in any one category, then a TMDL is required. In tier-2, there must be an exceedence in at least two of the three categories for a TMDL to be required. Since there exists only one exceedence in a single category (as shown in the table in Appendix-A), tier-2 cannot apply. The only potential exceedence of a tier would be in tier-1 in the tissue results category for PCB. However, there exist only three PCB data from tissue, whereas a minimum of five is needed to require a TMDL. Staff, therefore, conclude that no category of either tier is exceeded and a TMDL is not warranted.

	<i>Water Quality Category</i>	<i>Sediment Quality Category</i>	<i>Tissue Results Category</i>
Tier 1 Impairment to Aquatic Life or Probable Adverse Human Health effects	>10% and 2 or more samples ^A exceed CTR values within last 3 years OR Water TIEs clearly demonstrate toxicant (data < 10 years old) OR 1 sample > 20x CTR value (data any age)	>25% and 3 or more samples ^B exceed <i>minimum</i> high SQGs (data < 10 years old) OR Sediment triad or TIE studies clearly demonstrate toxicant (data < 10 years old) OR 1 sample > 20x <i>minimum</i> high SQGs (data any age)	posted consumption advisory OR >25% and 3 or more samples ^B above tissue screening values (data < 10 years old) OR 1 sample > 20x tissue screening value (data any age)
Tier 2 Possible Effects to Aquatic Life or Human Health	Two or more samples ^A exceed applicable CTR values (data < six years old) OR 2 samples > 3x CTR value (data any age)	>10% and 2 or more ^A samples above <i>maximum</i> of low SQGs (data < 10 years old) OR 2 samples > 3x <i>maximum</i> of low SQGs (data any age)	>10% and 2 or more ^A samples above fish/shellfish tissue screening values (data < 10 years old) OR 2 samples > 3x tissue screening value (data any age)
Tier 2 Toxicity Possible Effects to Aquatic Life	AND Toxicity evident and associated water chemistry results exceed CTR values, but no TIEs	AND Toxicity evident and associated sediment chemistry results exceed <i>maximum</i> of low SQGs, but no TIEs	
Comment TMDL is triggered by one category in Tier 1 but needs two categories in Tier 2	see CTR for full discussion of acute and chronic values	High SQGs = PELs/ERMs/AETs; low SQGs = ERLs/TELS	Use lowest value of EPA, OEHHA, USFDA, State of Maine if no other value.

NOTE: TIER 1 requires minimum number of 10 samples less than or equal to 10 years old within a category for assessment. If insufficient data exist then assessment defaults into TIER 2 or it is inconclusive.

^A >10% and "two or more" from EPA 305(b) guidance (1997); section 3.2.4 on toxics in water samples (no minimum number of samples for Tier 2).

^B 25% from Consolidated Assessment and Listing Methodology guidance (EPA draft report 2001b).

Acronyms: CTR; California Toxics Ruse, TIE; Toxicity indicator evaluation, SQG; Sediment quality guidelines, PEL; Probably effect level, ERM; Effect range median, AET; Apparent effect threshold, OEHHA; Office of Environmental Health and Hazardous Assessment, USFDA; United State Food and Drug Administration, EPA; Environmental Protection Agency.

Note from the tissue data table in Appendix-A that only one exceedence occurred. The exceedence is for tissue criteria and is from a single sample that was drawn over ten years ago. Therefore, the only potential exceedence of the tiers outlined in the table above would be in tier-1 in the tissue

results category. However, there is only one sample, and the data is far less than 20 times the screening value. Therefore, a TMDL is not required.

Proposed Delisting

The RWQCB of the Central Coast Region recommends delisting San Luis Obispo Creek as impaired by priority organics. RWQCB staff make this recommendation based on the analysis presented above concluding that there exists insufficient evidence suggesting that the constituents of concern (PCB, chlordane, and HCH) are present at levels posing a risk to humans or wildlife.