

#374



COUNTY OF ORANGE
PUBLIC FACILITIES & RESOURCES DEPARTMENT

Vicki L. Wilson, Director

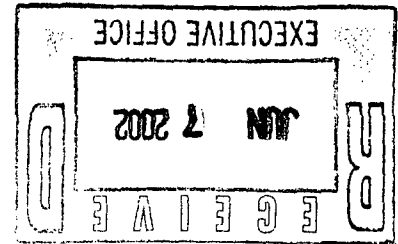
Environmental Resources
1750 S. Douglass Road
Anaheim, CA 92806

Telephone: (714) 567-6363
Fax: (714) 567-6220

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May 30, 2002

Craig J. Wilson, Chief
Monitoring and TMDL Listing Unit
Division of Water Quality
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100



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Subject: Revision of California's Clean Act Section 303(d) List of Water Quality Limited Segments

DWQ orig

Dear Mr. Wilson:

The Orange County Public Facilities and Resources Department has reviewed the proposed list and attached you will find our detailed comments. We have previously provided comments to each of both of the Regional Boards governing Orange County and reserve the right to add additional comments before the June 15 deadline.

The proposed listing of water bodies is a very important process that has significant implications for where we allocate our limited resources. It is therefore extremely important that each listing is accompanied by a significant body of study and science so that our resources are allocated to those issues that clearly require corrective action. We therefore support your designation of certain water bodies to a "watch" list where the standard of data is insufficient to support a listing.

Our comments on the listings for Orange County point to two main areas of concern. Firstly, in many cases we have technical issues with respect to how data has been interpreted, particularly data that has been generated by this Department. See for example our comments on the proposed listing of Dana Point Harbor for dissolved copper. Secondly, in certain cases, listings are being proposed for water bodies before they have been assigned beneficial uses. See for example our comments on Santa Ana-Delhi Channel and Pelican Creek.

Given the importance of this process, we would encourage consideration of a peer review process, similar to that required as part of the TMDL program, to validate the science in the listings.

If you have any questions regarding these comments, please call Chris Crompton at 714-567-6360.

Sincerely,

Larry McKenney, Manager
Watershed and Coastal Resources Division

Page 2
State Board 303(d) List

Attachment - Comments
Prior letters

Cc: Vicki Wilson, PFRD
Orange County cities
State Board members

Cc: H:\303(d)\letter\Comments 5-30-02

Comments on the Revision of California's Clean Water Act Section 303(d) List of Water Quality Limited Segments

San Diego Region (9)

Aliso Creek – Bacterial Indicators

Proposed Listing

Aliso Creek is proposed for listing as water quality limited for *Enterococcus*, *E. coli* and fecal coliform (pages 9-3, 9-4 and 9-5) based on a threat to the REC-1 beneficial use. The proposed listing is based on information contained in the 205(j) Planning Study prepared by the County of Orange.

Aliso Creek is currently listed as water quality limited for fecal coliform in the lower mile.

Issues/Comments

- On pages 9-3 and 9-4 it is stated that the Basin Plan Water Quality Objectives (WQO) for *Enterococcus* and *E.coli* in moderately used or lightly used areas of Aliso Creek was not attained, limiting the REC-1 beneficial use. The Region 9 Basin Plan cites EPA criteria for *Enterococcus* and *E.coli* but the application of these criteria is governed by Footnote 2, which limits their application.
- The proposed listing for both fecal coliform and *E.coli* appears duplicative, since *E.coli* is a fecal coliform. EPA has been encouraging states since 1986 to establish WQOs base on *Enterococcus* and *E.coli*, but California has largely used fecal coliform for water quality planning purposes. State guidance is needed in this area to focus on the appropriate indicators and avoid unnecessary duplication.
- On page 9-5 it is stated that the Basin Plan WQO for fecal coliform was exceeded at several points in Aliso Creek, based on 1998 data, limiting the REC-1 beneficial use. Since that time intensive investigations have been undertaken throughout Aliso Creek (see Aliso Creek Quarterly Progress Reports provided to the Regional Board) providing much new information, which we attach by reference:
 - Fecal coliform levels (and other indicators) are elevated above the objectives cited for REC-1 in many locations.
 - The objectives for REC-1 are based on “body contact with water where ingestion of water is reasonably possible” (Basin Plan). A recent recreational use analysis conducted during the last quarter of 2001 showed that water-contact recreation was very limited except in the lower mile of the Creek, which is currently listed as water quality limited. The water contact observed was largely limited by the

shallow depth of the water in many areas (often only a few inches) and was restricted mainly to wading where the likelihood of significant ingestion is low.

Recommended Action by State Board

The State Board should provide guidance on the appropriate bacterial indicators to be used and how they should be applied in waterbodies, like Aliso Creek, which in many areas and for most of the year have insufficient water to support water contact recreation other than incidental wading.

Aliso Creek – Total Phosphorus

Proposed Listing

Aliso Creek is proposed for listing as water quality limited for total phosphorus (page 9-6) based on a threat to the WARM and WILD beneficial uses. The proposed listing is based on information contained in NPDES permit monitoring reports prepared by the County of Orange.

Aliso Creek is currently not listed as water quality limited for total phosphorus.

Issues/Comments

- When computing the annual means for the period between July 1997 and June 2000, Region 9 used both stormwater and dry-weather concentrations from Orange County's NPDES water quality monitoring program. Total phosphorus concentrations in stormwater tend to be higher than in dry weather due to the presence of particulates that phosphorus compounds typically bind to. These stormwater flows are generally short duration and high intensity events that rapidly pass through Aliso Creek resulting in little opportunity for biostimulatory effects on biota. This lack of impact was similarly recognized by Region 8 in developing the nutrient TMDL for San Diego Creek, which excluded stormwater flows greater than 50 cubic feet per second.

Using only dry-weather concentrations from the NPDES database, the arithmetic mean for the period between July 1997 and June 2000 was 0.18 mg/L. The mean of all NPDES dry-weather sampling data from August 1991 through June 2001 was 0.19 mg/L.

- While the dry-weather concentrations are still above the 0.1 mg/l biostimulatory desired goal, it should be recognized that the Basin Plan states that "Inland surface waters, bays and estuaries and coastal lagoon waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses." Problems associated with such nuisance growths would include decaying algae mats leading to odors, depressed dissolved oxygen concentrations and fish kills. In its management of and extensive monitoring in Aliso Creek, the County of Orange has not identified any of these deleterious conditions that could be attributed to chronic concentrations of biostimulatory substances in the Creek and such a finding was included in the 205(j) Planning Study, which was the source of Region 9's data.

Recommended Action by State Board

Do not list as water quality limited for total phosphorus

Dana Point Harbor – Dissolved Copper

Proposed Listing

Dana Point Harbor is proposed for listing as water quality limited for dissolved copper in water and sediment (page 9-11) based on a threat to the WARM, WILD, MAR, MIGR and SPWN beneficial uses. The proposed listing is based on information contained in NPDES permit monitoring reports prepared by the County of Orange.

Dana Point Harbor is currently not listed as water quality limited for dissolved copper.

Issues/Comments

- The sediment data from Orange County's NPDES stormwater monitoring program have been interpreted incorrectly leading to an inappropriate recommendation for listing the Harbor as water quality limited.

For example, the concentrations of copper in sediment, collected semiannually by the County of Orange were compared to NOAA's Effects Range-Low (ERL) and Effects Range-Median (ERM) criteria. For copper the ERL is 34 mg/kg and the ERM is 270 mg/kg. The Region 9 evaluation states "Sediment data: 2000-2001: 25/25 (100%) > ERL, 14/25 (56%) > ERM; all years ('91-'01): 37/62 (60%) > ERL, 18/62 (29%) >ERM."

In fact, only 16 (not 25) total samples from sites throughout the Harbor were collected by the County of Orange during reporting years 1999-2000 and 2000-2001. The summary is therefore inaccurate for this time period.

With respect to the entire NPDES stormwater monitoring program database for Dana Point Harbor, 81 sediment samples were collected from 1991-2001, with 80 exceeding the ERL and none exceeding the ERM. Perhaps a more appropriate chemical indicator of toxicity may be NOAA's Probable Effects Level (PEL), a value between the ERL and the ERM that is described by NOAA as the level above which toxic effects are frequently expected. For copper in marine sediments the PEL is 108 mg/kg. As can be seen from the following summary of all sediment data collected from Dana Point Harbor during the NPDES stormwater program (monitoring years 1991-1992 through 1999-2000), concentrations above the PEL were frequently found through the end of 1997. Recent data (1998-2000) however, show concentrations consistently (26 of 28) below the PEL.

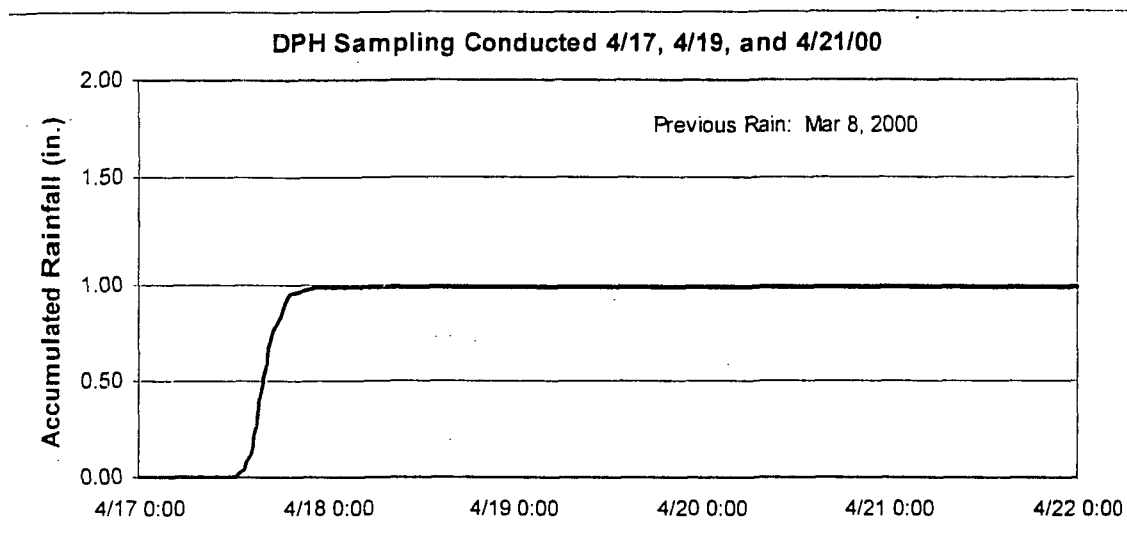
Station Date	DAPTEB	DAPTWB	DAPTLB	DAPTLR	DAPTOP
	Copper in Sediment (mg/kg)				
8/29/91	82	84	91	39	
6/24/92	140	63	130	42	72
11/24/92	216	160	168	100	
6/7/93	120	95	110	220	
10/27/93	98	140	150	110	
5/5/94	120	18	140	140	
11/9/94	160	130	150	130	
5/31/95	120	98	160	150	
10/23/95	200	110	160	150	
5/22/96	150	130	200	140	
11/14/96	190	93	180	81	
4/30/97	170	120	180	220	
10/17/97	240	250	200	120	
7/28/98	87	109	81	106	
10/28/98	57	68	77	63	
6/23/99	96	81	81	117	
10/28/99	83	82	74	64	
6/7/00	44	37	80	62	
11/21/00	82	57	70	40	
6/28/01	70	77	95	73	
mean	126	100	129	108	
median	120	94	135	108	

- Data from monitoring programs conducted by other organizations supports the fact that there is no significant sediment toxicity in Dana Point Harbor. In 1998, as part of the Southern California Bight Regional Monitoring Program (Bight '98), sediment samples from three randomly selected sites in the Harbor were evaluated for toxicity using three different methods (10-day Amphipod Survival Test, QwikSed, and P450 HRGS test). The results of each of the testing methods showed all three samples as non-toxic.
- The Region 9 evaluation states that in 33% of the aqueous samples, dissolved copper levels were above the CMC (Criteria Maximum Concentration = 4.8 µg/L) from the California Toxics Rule (CTR). The samples exceeding this criterion were all collected during a single stormwater monitoring period that was conducted in the Harbor from April 17-21, 2000. Region 9 has already conceded that these results may be erroneous due to laboratory error and it is clearly inappropriate to base the water quality limited listing of the Harbor for copper in the water column on data that even the regulatory agency does not trust.

The County of Orange shares similar concerns regarding the data in question. With the daily tidal flushing of the Harbor, it is very unusual that the effects of the storm that occurred on 4/17/00 (~ 1.0 inches of precipitation between 12:00 and 22:00-see graph below) would still be seen four days later, even at the Harbor entrance (see data below). It is also very unusual that the copper concentrations in each sample are generally greater than zinc concentrations based on historical patterns.

Dana Point Harbor receives stormwater runoff from local storm drains (reinforced concrete pipes) compared to Huntington Harbour and Newport Bay which receive runoff from regional facilities (including earthen channels) with large drainage areas. While it is conceivable that regional drains would have a lingering, post-storm effect, local concrete stormwater conveyances do not have the same pattern and cannot account for the continued high copper readings.

The copper data in question, for the reasons described above, must therefore be flagged as questionable and should not be used in the decision making for the Section 303(d) list.

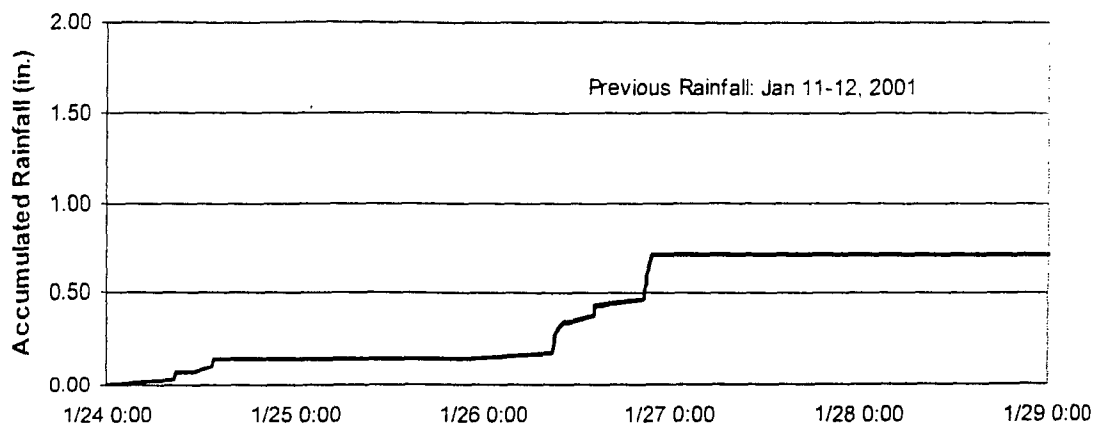


Aqueous Metals Concentrations at the Dana Point Harbor Entrance (DAPTHE)

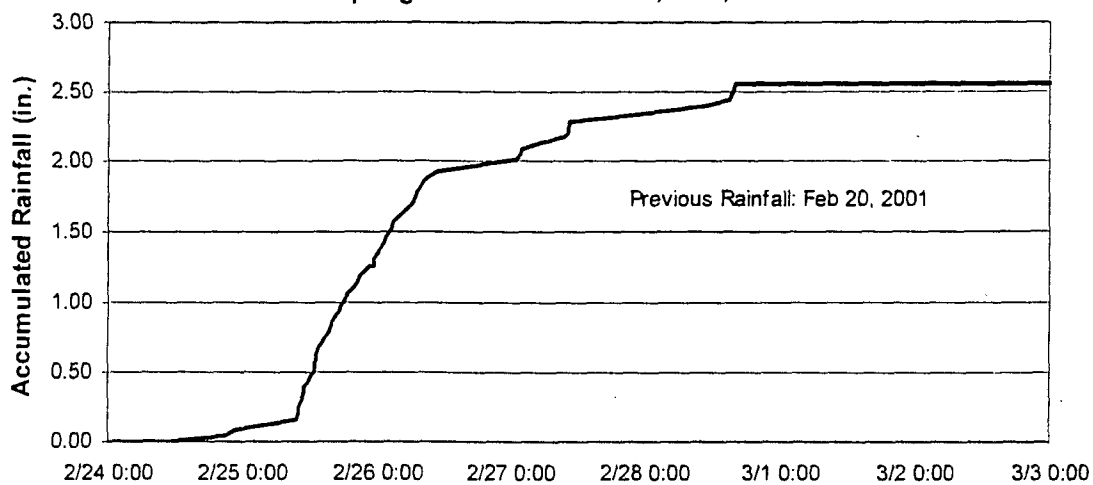
Date Time	Type	Cd µg/L	Cr µg/L	Cu µg/L	Pb µg/L	Ni µg/L	Ag µg/L	Zn µg/L
4/17/00 17:15	total	<1	<8	33	<2	13	<2	11
	diss	<1	<8	21	<2	11	<2	12
4/19/00 10:00	total	<1	<8	22	<2	14	<2	<10
	diss	<1	<8	20	<2	12	<2	<10
4/21/00 10:51	total	<1	9.1	30	<2	20	<2	11
	diss	<1	9.7	31	<2	19	<2	<10

- The effects of two other storms have been evaluated since April 2000. None of the 30 samples collected during these two events showed concentrations of dissolved copper above the CTR CMC for seawater. The results are presented below.

DPH Sampling Conducted 1/24, 1/26, and 1/28/01



DPH Sampling Conducted on 2/26, 2/28, and 3/2/01



Aqueous Copper and Zinc Concentrations in Dana Point Harbor – 2001 Storms

Date	Type	DAPTEB		DAPTWB		DAPTLB		DAPTLR		DAPTHE	
		Cu μg/L	Zn μg/L	Cu μg/L	Zn μg/L	Cu μg/L	Zn μg/L	Cu μg/L	Zn μg/L	Cu μg/L	Zn μg/L
1/24/01	total	3.5	31	<2	23	<2	18	<2	15	<2	19
	diss	<2	27	<2	18	<2	15	<2	12	<2	17
1/26/01	total	<2	12	3.1	24	2.4	65	<2	19	7.3	26
	diss	<2	<10	<2	17	<2	17	<2	16	2	23
1/28/01	total	8.7	33	11	31	8.8	26	17	36	<2	<10
	diss	3.2	24	<2	18	<2	14	<2	13	<2	<10
2/26/01	total	8.1	29	22	43	<2	24	<2	15	<2	13
	diss	<2	15	<2	12	<2	15	<2	<10	<2	<10
2/28/01	total	<2	17	<2	32	<2	11	<2	15	<2	12
	diss	<2	83	<2	17	<2	12	<2	13	<2	<10
3/2/01	total	<2	20	<2	15	<2	<10	<2	11	<2	<10
	diss	<2	39	<2	14	<2	<10	<2	12	<2	<10

Dana Point Harbor – Bacterial Indicators

Proposed Listing

Dana Point Harbor is proposed for listing as water quality limited for total and fecal coliform and *enterococci* (page 9-10) based on a threat to the REC-1 and SHELL beneficial uses. The proposed listing is based on information from the Orange County Health Care Agency.

Dana Point Harbor is currently not listed as water quality limited for bacterial indicators.

Issues/Comments

- The Region 9 Water Quality Control Plan (Basin Plan) establishes WQO's for REC-1 based on fecal coliform. Beach closures or general advisories issued by the Orange County Health Care Agency (HCA) cited on page 9-10 as the reason for the proposed listing are based on AB411 criteria, which are different. The HCA typically uses total coliform, E.coli (fecal coliform after April 2001) and *Enterococcus* for this purpose. The evaluation for listing as water quality limited must therefore be carried out relative to the Basin Plan bacterial indicator WQOs, which has not been done.
- The Region 9 Basin Plan establishes WQO's for SHELL based on "...the median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 ml nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 ml for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used." No information is presented to indicate that sampling has been carried out throughout the water column and use of the HCA data for this purpose would not be satisfactory since they conduct sampling in the uppermost portion of the water column only. It should also be noted that no formal shellfish harvesting is known to occur in Dana Point Harbor and any incidental take is likely to be for bait purposes rather than human consumption.

Recommended Action by State Board

Evaluation of Dana Point Harbor as water quality limited for REC-1 due to bacterial indicators should be based on a comparison of fecal coliform data to the WQO. If such data is not available or does not support the listing, Dana Point Harbor should not be listed as water quality limited for REC-1.

Evaluation of Dana Point Harbor as water quality limited for SHELL due to bacterial indicators should be based on a comparison of the median total coliform concentration throughout the water column to the WQO. If such data is not available or does not support the listing, Dana Point Harbor should not be listed as water quality limited for SHELL due to bacterial indicators.

If a new set of bacterial indicators are to be established as WQOs, this should be done through an amendment of the Basin Plan. The State Board may want to provide guidance for this change on a statewide basis to ensure consistency.

Prima and Segunda Deschecha Channels – Phosphorus and Turbidity

Proposed Listing

Both Prima and Segunda Deschecha Channels are proposed for listing as water quality limited for phosphorus and turbidity (page 9-26, 9-27, 9-38 and 9-39) based on a threat to the REC-1, REC-2, WARM and WILD beneficial uses. The proposed listing is based on information from the Orange County Health Care Agency.

Prima and Segunda Deschecha Channels are currently not listed as water quality limited for phosphorus and turbidity.

Issues/Comments

- The phosphorus levels in both Prima and Segunda Deschecha Channels are cited as a threat to the REC-1 and REC-2 beneficial uses. The water quality objectives in the Basin Plan for these beneficial uses are based on bacterial indicators, not phosphorus, so this citation appears inappropriate.
- Both dry and wet weather data were used in the assessment of phosphorus and turbidity. As in the argument presented for Aliso Creek previously, total phosphorus and turbidity concentrations in stormwater tend to be higher than in dry weather. These stormwater flows are generally short duration and high intensity events that rapidly pass through channels, such as Prima and Segunda Deschecha, resulting in little opportunity for biostimulatory or light reduction effects on biota. This lack of impact was similarly recognized by Region 8 in developing the phosphorus nutrient TMDL for San Diego Creek, which excluded stormwater flows greater than 50 cubic feet per second. The statistical analysis for turbidity and phosphorus should have been conducted on the dry-weather data only.
- Statistical examination of the dry-weather turbidity data collected from Prima Deschecha Channel between July 1997 and June 2000 shows that the data are lognormally distributed (W Test for normality, Shapiro and Wilk, 1965). Statistical methods for lognormal distributions should be used to evaluate these data. The dry weather data from 1991 to 2000 has a mean of 163 NTU, but a logmean of 19.4 NTU. The latter appears a more appropriate data analysis based on the lognormal distribution.
- The mean dry-weather turbidity in Segunda Deschecha Channel between 1991 and 2000 was 15.1 NTU.
- The mean dry-weather phosphorus concentrations in Segunda Deschecha and Prima Deschecha Channels between 1991 and 2000 were 0.31 mg/L (n=67) and 0.63 mg/L (n=69) respectively. While these dry-weather concentrations of phosphorus are above the 0.1 mg/l biostimulatory desired goal, it should be recognized that the Basin Plan

states that "Inland surface waters, bays and estuaries and coastal lagoon waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses." Problems associated with such nuisance growths would include decaying algae mats leading to odors, depressed dissolved oxygen concentrations and fish kills. In its management of and monitoring in Prima and Segunda Deschecha Channels, the County of Orange has not identified any of these deleterious conditions that could be attributed to chronic concentrations of biostimulatory substances in the Channels and the sampling area in question is a concrete lined with minimal WARM and WILD potential.

Recommended Action by State Board

Evaluation of Prima and Segunda Deschecha Channels as water quality limited for WARM and WILD due to phosphorus should be based dry weather data only. While the dry weather levels are above the biostimulatory desired goal, no evidence of biostimulation has been observed to support the listing of either as water quality limited for WARM and WILD and the reaches being monitored in both cases are concrete lined.

Evaluation of Prima and Segunda Deschecha Channels as water quality limited for WARM and WILD due to turbidity should be based dry weather data only and recognize the lognormal distribution of the data in Prima Deschecha Channel. Analysis of the dry weather data in these Channels in this manner does not support the listing of either as water quality limited for WARM and WILD.

Prima and Segunda Deschecha Channels should not be considered water quality limited for REC-1 and REC-2 due to phosphorus and turbidity.

Santa Ana Region (8)

Santa Ana Delhi Channel

Proposed Listing

Santa Ana-Delhi Channel is proposed for listing as water quality limited for fecal coliform (Page 8-1) based on a threat to the REC-1, REC-2, and MUN beneficial uses. The proposed listing is based on information from the Orange County Health Care Agency.

Santa Ana-Delhi Channel is currently not listed as water quality limited for fecal coliform.

Issues/Comments

- The Basin Plan has no established beneficial uses for the Santa Ana-Delhi Channel although the lower section (approximately a half mile) would constitute a tidal prism of a flood control channel discharging to Bay waters. In fact the proposed triennial work plan of the Regional Board recommends adding appropriate beneficial uses for Santa Ana Delhi Channel, recognizing that this has not been done.
- The Basin Plan exempts many channels in Orange County from the MUN designation, therefore this listing is inappropriate.
- The Orange County Health Care Agency has been collecting bacteriological data from the tidal prism of Santa Ana Delhi Channel since June 1997. Initially, indicators included total coliform, fecal coliform and *Enterococcus*. E.coli analyses replaced fecal coliform from April 1999 until April 2001, after which fecal coliform analyses were again performed. Since the data used for the proposed listing closed in May 2001, most of the fecal coliform data available for comparison with the REC-1 and REC-2 objectives were 3 to 5 years old and do not reflect current conditions. This is a very limited dataset for listing purposes and may be highly influenced by seasonal winter conditions.
- Santa Ana-Delhi Channel as a whole is not conducive in its entirety for either a REC-1 or REC-2 use and would be extremely dangerous during rain events. The total channel footage is 28,806 feet with 22,732 as open channel (4.3 miles). The channel is fully engineered as a flood control facility with 19.21% earth trapezoid, 3.35% rip rap trapezoid, 4.4% concrete trapezoid and 73.03% vertical concrete (see attached photo). The tidal prism is partially within an ecological reserve operated by the Department of Fish and Game and swimming is prohibited by the Department.

Recommended Action by State Board

Evaluation of the tidal prism of Santa Ana-Delhi Channel as water quality limited for REC-1 and REC-2 due to bacterial indicators should be based on a comparison of fecal coliform data to the WQO and limited to non-storm conditions. If such data does not support the listing, the tidal prism of the Santa Ana-Delhi Channel should not be listed as water quality limited for REC-1 and REC-2.

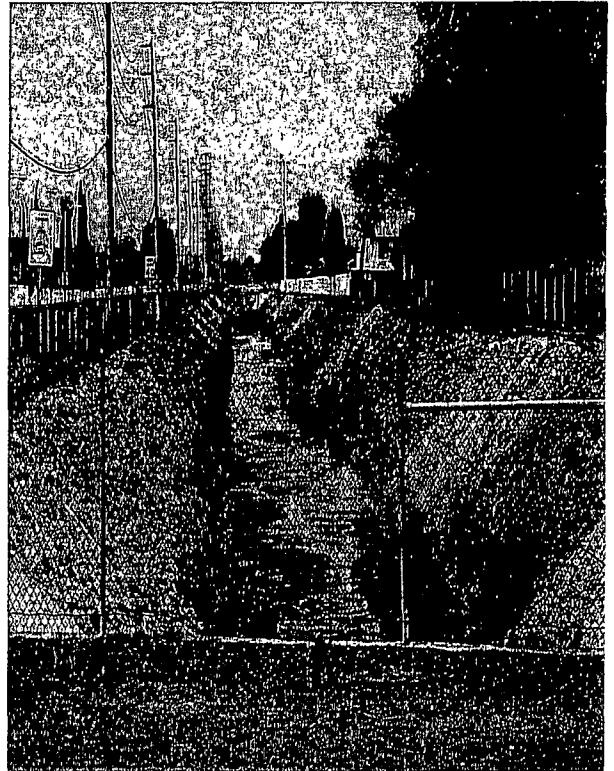
Santa Ana-Delhi Channel above the tidal prism should not be considered as water quality limited for REC-1 and REC-2 since these beneficial uses are currently being proposed by the Regional Board. This will require a public hearing process.

No areas of Santa Ana-Delhi Channel should be considered as water quality limited for MUN since this beneficial use is not applicable.

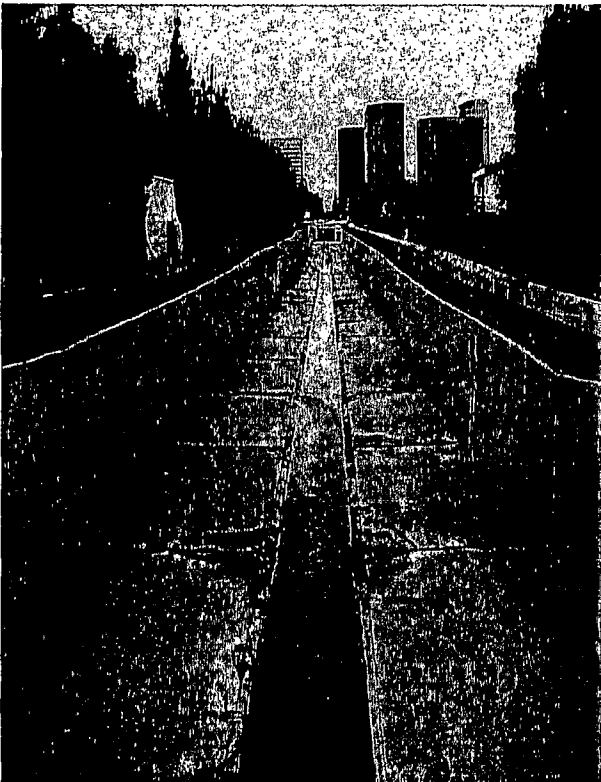
Santa Ana Delhi Channel F01



Down Stream Dyer / Flower pg 859 E1



Up Stream Flower / Sunflower pg 859 E3



Up Stream Paularino / Enterprise pg 859 D5



Up Stream Irvine Av below Bristol pg 889 D1

San Diego Creek

Proposed Listing

San Diego Creek Reach 1 is proposed for listing as water quality limited for fecal coliform (Page 8-18) based on a threat to the REC-1, REC-2, and MUN beneficial uses.

San Diego Creek Reach 1 is currently not listed as water quality limited for fecal coliform.

Issues/Comments

- The Basin Plan exempts San Diego Creek from the MUN designation. Therefore this listing is inappropriate.
- As in the Santa Ana Delhi Channel, the continuous weekly record for fecal coliform analyses extends back only to April 2001. Since the data used for the proposed listing closed in May 2001, the fecal coliform data available for comparison with the REC-1 and REC-2 objectives was old data from 1997 to 1999. This is a very limited dataset for listing purposes and may be highly influenced by seasonal winter conditions.
- The listing of San Diego Creek Reach 1 for REC-1 is footnoted with the statement that the County of Orange prohibits access in all or part reflecting extremely dangerous conditions during rain events. The REC-1 data analysis should therefore separate wet and dry conditions, since REC-1 contact must not occur during the former.

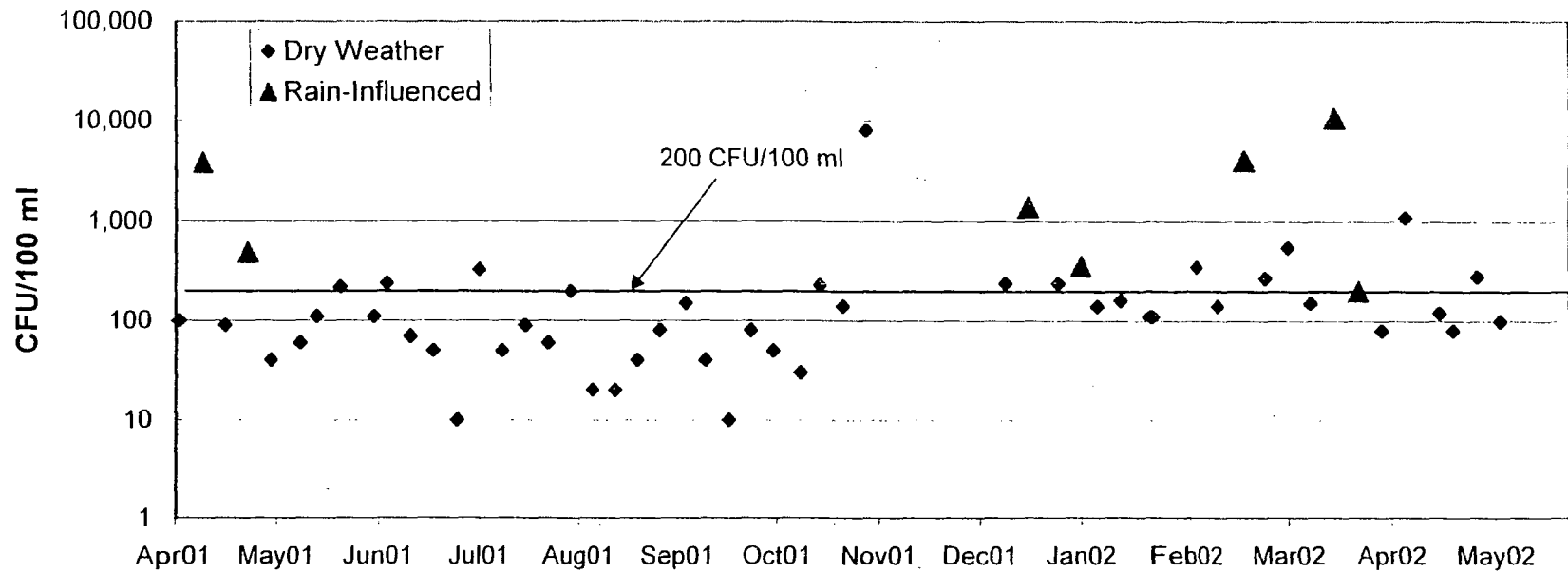
An analysis of only dry condition data from April 2001 to May 2002 indicates a geometric mean fecal coliform value of 110 CFU/100 ml from 45 analyses. Both wet and dry condition data from 52 analyses during this same period had a geometric mean fecal coliform value of 154 CFU/100 ml. While these numbers are not a direct comparison to the 30-day sample periods in the REC-1 objective, they do indicate that the REC-1 objective is met on the majority of sampling days. The attached graph shows this.

Recommended Action by State Board

Evaluation of San Diego Creek Reach 1 as water quality limited for REC-1 and REC-2 due to bacterial indicators should be based on a comparison of recent fecal coliform data to the WQO. These data are only available after April 2001 and does not unequivocally support the listing of this reach of the Creek as water quality limited. Therefore it is recommended that San Diego Creek Reach 1 not be listed at this time.

San Diego Creek Reach 1 should not be considered as water quality limited for MUN since this beneficial use is not applicable.

Fecal Coliform Concentration in San Diego Creek



Pelican Point Creek, Pelican Point Middle Creek and Pelican Hill Waterfall

Proposed Listing

Pelican Point Creek, Pelican Point Middle Creek and Pelican Hill Waterfall are proposed for listing as water quality limited for fecal coliform (Page 8-2, 8-3 and 8-4) based on a threat to the REC-1, REC-2, and MUN beneficial uses. The proposed listing is based on information from the Orange County Health Care Agency.

Pelican Point Creek, Pelican Point Middle Creek and Pelican Hill Waterfall are currently not listed as water quality limited for fecal coliform.

Issues/Comments

- The Basin Plan has no established beneficial uses for the Pelican Point Creek, Pelican Point Middle Creek and Pelican Hill Waterfall. In fact the proposed triennial work plan of the Regional Board recommends adding appropriate beneficial uses for these Creeks, recognizing that this has not been done.
- The Basin Plan exempts most inland surface waters in Orange County from the MUN designation. Therefore this listing is inappropriate.

Recommended Action by State Board

Pelican Point Creek, Pelican Point Middle Creek and Pelican Hill Waterfall should not be considered as water quality limited for REC-1 and REC-2 since these beneficial uses are currently being proposed by the Regional Board.

No areas of Pelican Point Creek, Pelican Point Middle Creek and Pelican Hill Waterfall should be considered as water quality limited for MUN since this beneficial use is not applicable.



COUNTY OF ORANGE
PUBLIC FACILITIES & RESOURCES DEPARTMENT

Vicki L. Wilson, Director
300 N. Flower Street
Santa Ana, CA
P.O. Box 4048
Santa Ana, CA 92702-4048
Telephone: (714) 834-2300
Fax: (714) 834-5188

December 5, 2001

John Robertus, Executive Officer
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Subject: Update of 303(d) List of Impaired Water Bodies in the San Diego Region

Dear Mr. Robertus:

The Public Facilities and Resources Department (PFRD) has reviewed Appendix B of the 2002 update of the Section 303(d) list for impaired water bodies in the San Diego Region. The following comments are submitted:

1. On page B-3 it is stated that in Aliso Creek the Basin Plan REC1 objective for *Enterococci* in moderately used or lightly used areas was not attained. The Region 9 Basin Plan does not have objectives for *Enterococci*. The assessment was made relative to an EPA criterion for *Enterococci* that is cited in the Basin Plan.

Also on page B-3 it is stated that the Basin Plan objective for total phosphorus (0.1 mg/L as P) is not being attained. When computing the mean of 0.28 mg/L for the period between July 1997 and June 2000, Board staff used both stormwater and dry-weather concentrations from the NPDES water quality monitoring program. On page B-4 it states that "these concentrations of phosphorus over the Basin Plan objective are expected to contribute to excess algae growth that would impair the REC1, REC2, WARM and WILD beneficial uses through the creation of odors, colors, increased turbidity and low dissolved oxygen environments."

One would expect particulate phosphate concentrations in stormwater to be much higher than this Basin Plan objective and establishing realistic BMPs to keep stormwater levels below the objective is probably not feasible.

Using only dry-weather concentrations from the NPDES database (7/97-6/00), the arithmetic mean was recalculated as 0.18 mg/L. PFRD staff who have sampled the Creek throughout the spring and summer in response to the 13225 Directive did not report any odor problems, increased turbidity, or problems that would be associated with low dissolved oxygen.

2. On page B-7 statistics are presented on dissolved copper concentrations in Dana Point Harbor. It should be noted that the average dissolved copper concentration was calculated from sampling the harbor during a single storm in April 2000. Additional data (Appendix L of the 2000/2001 Annual Status Report) from two storms in 2001 show dissolved copper concentrations consistently below the detection limit of 2 ug/L at all points in the Harbor. The latter two events appear to indicate that the concentrations of copper during the first storm may have been anomalous. More data are needed to make a reasonable assessment of impairment.

The second and third columns of statistics for dissolved copper that are presented on page B-7 are incorrect. These calculations include values for both total recoverable and dissolved copper. The County's NPDES database denotes dissolved metal samples with "SF" (storm filtered) or "DF" (dry-weather filtered) in the "Sample Type" column. Total recoverable metals are denoted by "ST" or "DT" in the "Sample Type" column.

It should be noted that the total recoverable copper concentration at station DAPTLR on June 29, 1999 was 117 ug/L not 1117 ug/L as originally reported in the 1999/2000 Annual Status Report.

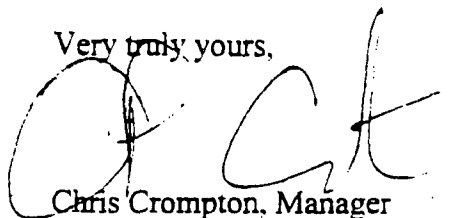
3. It was noted on pages B-9 and B-12 that a majority of the NPDES monitoring that was conducted in Prima Deschecha and Segunda Deschecha Channels occurred during the rainy season. The stormwater runoff data in the 1999/2000 Annual Status report is denoted with an "ST" or "SF" in the "Sample Type" column. The statistical results presented in Appendix B were calculated from both storm and dry-weather data. As in the discussion presented in #2 above, the statistical analysis for turbidity and phosphate should have been conducted on the dry-weather ("D" or "DT" sample type) data only.

Furthermore, a statistical examination of the dry-weather turbidity data collected from Prima Deschecha Channel between July 1997 and June 2000, shows that the data are lognormally distributed (W Test for normality, Shapiro and Wilk, 1965). Statistical methods for lognormal distributions should be used to evaluate these data.

The comments submitted above illustrate the problems that could arise from using incompatible (e.g. total recoverable vs. dissolved metals for CTR analysis) data, or applying inappropriate statistical methods. It is suggested that methods described in texts such as Statistical Methods in Water Resources, D.R. Hensel (USGS), 1993; and Statistical Methods in Environmental Pollution Monitoring, R.O. Gilbert, 1987, be used as guidance for screening data and for generating the appropriate statistics.

If you or any of your staff need assistance in interpreting any of the water quality data provided in the annual status reports please contact Bruce Moore at (714) 567-6373. We reserve the right to submit additional comments at a later date if additional items are identified in the proposed listings.

Very truly yours,

A handwritten signature in black ink, appearing to read "Crompton", written over the typed name.

Chris Crompton, Manager
Environmental Resources

Cc: Bob Wilson, Manager
Watershed and Coastal Resources



COUNTY OF ORANGE
PUBLIC FACILITIES & RESOURCES DEPARTMENT

Vicki L. Wilson, Director
 300 N. Flower Street
 Santa Ana, CA
 P.O. Box 4048
 Santa Ana, CA 92702-4048
 Telephone: (714) 834-2300
 Fax: (714) 834-5188

January 23, 2002

Mr. Gerard J. Thibeault, Executive Officer
 California Regional Water Quality Control Board
 Santa Ana Region
 3737 Main Street, Suite 5000
 Riverside, CA 92501-3348

Subject: Comments on Update to 303(d) List of Impaired Waterbodies

Dear Mr. Thibeault:

The proposed update to the Santa Ana Regional Water Quality Control Board's 303(d) list of impaired waterbodies has been reviewed and the following comments are submitted. It should be noted that these comments are preliminary that additional comments may be submitted at a later date.

- The staff report proposes the addition of the Santa Ana Delhi Channel, Muddy Creek, Buck Gully Creek, Pelican Point Creek, Pelican Point Middle Creek and Pelican Hill Waterfall Creek because of high coliform results from the Orange County Health Care Agency's bacteriological monitoring database.

Table 3-1 of the Water Quality Control Plan for the Santa Ana River Basin contains the beneficial uses for waterbodies in the region. None of the coastal creeks that discharge to the Newport Coast or the Santa Ana Delhi Channel are contained in this table. The 303(d) list should contain only those waterbodies for which there are established beneficial uses in the Basin Plan. A basin Plan amendment may be needed to establish new beneficial uses.

- In the table containing the draft 303(d) List and TMDL Priority Schedule, the data in the column showing the size of the affected waterbodies appears to be inconsistent. In most cases, this table lists the affected size while Attachment E (Water Quality Assessment Worksheets) identifies the impairment size as unknown at this time (Santa Ana Delhi, Muddy Creek, Buck Gully).

Please contact me directly at (714) 834-5302 if you have any questions or for technical issues, please contact Chris Crompton at (714) 567-6360 or Bruce Moore at (714) 567-6373.

Sincerely,

Vicki L. Wilson
 Director

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cc: Michael Schumacher, CEO
 Larry Paul, CEO/Intergovernmental Affairs
 Kenneth R. Smith, PFRD/Chief Engineer
 Bob Wilson, PFRD/Watershed & Coastal Resources
 Herb Nakasone, PFRD/Program Development