



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

March 8, 2007

Tom Howard  
Acting Executive Director  
State Water Resources Control Board  
P.O. Box 100  
Sacramento, CA 95812

Dear Mr. Howard:

EPA received California's Clean Water Act Section 303(d) List of Water Quality Limited Segments for 2004-2006 on November 24, 2006. On November 30, 2006, we approved the State's inclusion of waters and pollutants identified on the three-part Section 303(d) list with the exception of Walnut Creek toxicity. I am pleased to acknowledge the State and EPA agreed on more than 99% of the State's assessment determinations.

As indicated in my November 30 letter, we reviewed the State's assessment of waters and pollutants not included on the State's list, including coastal beaches the State Board identified as particularly appropriate for further review. We completed our review and are acting today to partially disapprove the State's submittal due to the omission of several water bodies and associated pollutants that meet federal listing requirements. The water bodies and associated pollutants that we are adding to the State's 2004-2006 list of water quality limited segments are identified in the enclosed tables. Our rationale for adding the water bodies and pollutants is described in Enclosure 1.

We will now solicit public comments on the additions to the State's 303(d) list as identified in Tables 1 and 2. We will provide a responsiveness summary for comments received on these additions as well as how we considered public comment in the final assessment decisions. We will transmit our final decisions regarding these waters added to the State's 2004-2006 303(d) list for incorporation in the State's water quality management plan.

If you wish to discuss this, please call me at (415) 972-3572 or call Peter Kozelka at (415) 972-3448. We would be pleased to brief you and Board members, if you wish, on this matter.

Sincerely yours,

*/signed/*

Alexis Strauss  
Director, Water Division

Enclosures  
cc: SWRCB members

## Enclosure 1: Review of California's 2004-2006 Section 303(d) List

### I. Purpose

The purpose of this review document is to describe the rationale for EPA's partial disapproval of California's 2004-2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments<sup>1</sup>. The following sections identify those key elements to be included in the list submittal based on the Clean Water Act and EPA regulations. See, 40 C.F.R. §130.7. EPA reviewed the methodology used by the State in developing the 303(d) List and California's description of the data and information it considered. EPA's review of California's 303(d) list is based on EPA's analysis of whether the State reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

This review describes the basis for EPA's decision to disapprove California's decision to not include certain waters and pollutants on its 303(d) List. EPA's determination to add waters and/or pollutants is based on monitoring results and information in the State's administrative record, as well as some additional material cited in the References section at end of this document. We carefully reviewed the State's entire submittal including listing decisions, assessment methodology, and supporting data and information. Since today's action involves the review of the State's determination not to include various waters and/or pollutants on its 303(d) List, EPA's assessment primarily focused upon waters addressed in the following portions of the State's submittal:

- i. Staff Report, "Revision of the Clean Water Act Section 303(d) List of Water Quality Limited Segments", Vol. I, Table 9 (regarding deletions from the Section 303(d) List);
- ii. Staff Report, (Water body Factsheets Supporting "Do Not List Recommendations");
- iii. State Water Resources Control Board Resolution 2006-0079, p.2 (encouraging the additional review of data pertaining to the listing of several coastal beaches and delisting of Walnut Creek for toxicity); and
- iv. Comments and responses to comments in Staff Report, "Revision of the Clean Water Act Section 303(d) List of Water Quality Limited Segments", Vol. IV.

As discussed further below, EPA will open a public comment period on these additions to California's 303(d) List, and will, if necessary, revise the list of added waters and pollutants following consideration of any comments received. The general basis for adding individual waters and pollutants are discussed here and case-specific water body information is provided in Tables 1 and 2.

EPA has already acted to approve the waters and pollutants included on the State's 2004-2006 303(d) list, except Walnut Creek toxicity. See letter dated November 30, 2006, from Alexis Strauss to Tom Howard. This partial approval by EPA approved the listings identified in the three tables that comprised the State's 303(d) List:

- a) List of Water Quality Limited Segments Still Needing Total Maximum Daily Loads;
- b) List of Water Quality Limited Segments Being Addressed By USEPA Approved TMDLs;  
and
- c) List of Water Quality Limited Segments Being Addressed By Actions Other Than TMDLs.

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<sup>1</sup> Although the submittal refers to a 2006 list, California did not complete a 2004 list. EPA therefore considers that this list comprises the State's listing determinations for the 2004-2006 period.

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States are authorized to include on their Section 303(d) lists impaired waters for which TMDLs have been completed or are being addressed through other control actions.

### **II. Statutory and Regulatory Background**

#### **A. Identification of Water Quality Limited Segments for Inclusion on Section 303(d) List**

Section 303(d)(1) of the Act directs States to identify those waters within its jurisdiction for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long-standing interpretation of Section 303(d).

EPA regulations provide that States do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act, (2) more stringent effluent limitations required by Federal, State or local authority, and (3) other pollution control requirements required by State, local, or Federal authority. See 40 CFR 130.7(b)(1).

#### **B. Consideration of Existing and Readily Available Water Quality-Related Data and Information**

In developing Section 303(d) lists, States are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the State's most recent Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate nonattainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to EPA. See, 40 CFR 130.7(b)(5). In addition to these minimum categories, States are required to evaluate any other water quality-related data and information that is existing and readily available. EPA's 1991 Guidance for Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available. See, EPA 1991, Appendix C. While States are required to evaluate all existing and readily available water quality-related data and information, States may decide to rely or not rely on particular data or information in determining whether to list particular waters.

In addition to requiring States to assemble and evaluate all existing and readily available water quality-related data and information, EPA regulations at 40 CFR 130.7(b)(6) require States to include as part of their submittals to EPA documentation to support decisions to use or not use particular data and information and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and

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(3) any other reasonable information requested by the Region.

### III. Analysis of California's Submittal

#### A. Identification of Waters and Consideration of Existing and Readily Available Water Quality-Related Data and Information.

As noted above, EPA conducted its review of California's 2004-2006 Section 303(d) listing decision in two phases. This second phase focuses upon the State's assessments of waters and pollutants it decided not to list. The second phase also includes the review of additional data supporting the delisting of Walnut Creek for toxicity as encouraged by the State Water Resources Control Board's resolution of October 25, 2006. See Resolution No. 2006-0079, p. 2. EPA has reviewed the State's submittal, and has concluded that the State developed its 303(d) List in partial compliance with Section 303(d) of the Act and 40 CFR 130.7. EPA's review is based on its analysis of whether the State reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

California used its 2002 Section 303(d) List as its starting point for its 2004-2006 Section 303(d) List. See, State Water Resources Control Board, Division of Water Quality, "Staff Report, Revision of the Clean Water Act Section 303(d) List of Water Quality Limited Segments", vol. 1, pp. 3-4 (Nov. 2006). The State based its 2004-2006 Section 303(d) List on its analysis of readily available data and information to determine whether additions to or deletions from the 2002 list were necessary. The State generally determined that waters listed in 2002 should be retained on the Section 303(d) List unless: (1) new data and information supported a finding that listing requirements are no longer met or (2) errors in the analysis supporting the 2002 or earlier listing were identified. As a result, many waters were retained on the 2004-2006 Section 303(d) List without extensive analysis. EPA concludes that this incremental listing approach is consistent with federal requirements because the State is making the environmentally conservative assumption that previously listed waters are water quality limited segments (WQLSs) absent more recent data or information supporting a different finding. We note, however, that the State conducted extensive assessments of a higher percentage of its waters than in prior listing decisions.

#### B. Assembly of Data and Information

The State devoted considerable effort to assemble new data and information for the 2004-2006 Section 303(d) List. See, State Board's Staff Report, noted above, pp. 4-17. Regional Board staff compiled data and information from multiple sources, including each of the data and information categories identified at 40 CFR 130.7(b)(5). The State initially solicited data and information from the public, and requested data and information for the 2001-2004 period. The solicitation was mailed to an extensive mailing list, advertised in newspapers, and posted on State and Regional Board web sites. The State also assessed the extensive monitoring data record compiled in the Surface Water Ambient Monitoring Program (SWAMP) data base for the period 2001-March, 2005. The State also considered data and information submitted during three separate public comment periods between September 2005 and September 2006. Overall, while the State focused its efforts to

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assemble data and information on the period between 2001 and 2005, the State also considered data and information submitted by the public in 2005 and 2006. EPA finds it was generally reasonable for the State to focus its analysis on data and information assembled or submitted during the data solicitation period because the State needed a reasonable amount of time to consider the large amount of data and information in the record and to develop listing recommendations. Data and information sources assembled and considered by the State are specifically identified in the State Board's staff report and in more than 1800 individual water body fact sheets included in the list submittal.

The State generally focused on data that became available after 2001 because the 2002 listing analysis focused on data and information that were available before 2001. In some cases, the State considered older data as part of its 2004-2006 listing assessments, depending upon the pollutants at issue, the types of data (e.g., sediment vs. water column data), and the availability of more recent data and information. EPA finds it reasonable for the State to base its assessments on water quality data generally collected during the 2001-2006 time frame because the more recent ambient water quality data are more likely to be representative and indicative of current water quality conditions. EPA also finds it is reasonable for the State to consider sediment and tissue data that are older than five years in age because these media usually are longer-term indicators of chemical contamination than are ambient water column data, and provide reliable information for assessing water quality conditions for a longer period of time.

The State developed water body fact sheets to summarize listing assessments. The fact sheets include the following elements.

- water body identification information,
- applicable water quality standards/beneficial use information,
- monitoring results by matrix (e.g., water, sediment, tissue),
- data quality information,
- linkage between monitoring results and applicable standards or other guidelines,
- availability of data and information,
- considerations in analyzing data and information (e.g. sample size),
- temporal and spatial representation of available data,
- use of standard analytical methods for data analysis,
- pollutant source(s),
- listing recommendation

The State generated fact sheets for waters and pollutants to be added to or removed from the list and for cases where new data and information were available but did not support a change in the listing decision. The fact sheets provide good summaries of the listing assessment decisions. The State also incorporated fact sheets previously generated during the 2002 list development as part of the 2004-2006 decision record. The State's responses to comments concerning several of the water body assessments provide supplemental information explaining the basis for the State's assessment conclusions concerning several waters for which fact sheets were not prepared. EPA reviewed the fact sheets to ensure the basis for each water body assessment was sufficiently clear and consistent with federal listing requirements. We also reviewed the responses to public comments.

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### C. Listing Methodology

The list submittal summarizes the listing methodology used by California to prepare the 2004-2006 Section 303(d) List. In September 2004, the State adopted the *Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List* ("State Listing Policy") in accordance with California Water Code section 13191.3(a). The State Listing Policy contains a generally standardized approach for developing the State's 303(d) List. The State Listing Policy provides two assessment methodologies. First, the State Listing Policy specifies explicit rules for making listing and delisting decisions for different pollutant types based on different kinds of data. These quantitative assessment criteria specify statistical methods for evaluating potential standards exceedences, minimum data set requirements, and data quality requirements. These decision rules are applied to various types of data, including water chemistry, bacteria, health advisories, fish tissue, nutrients, nuisance factors, adverse biological response, water and sediment toxicity, and degradation of aquatic life populations and communities. The second methodology describes a weight of evidence approach that must be used if available information indicates water quality standards are not attained and the other decision rules do not support listing.

The State used the assessment decision rules identified in the State Listing Policy as the basis for the majority of its 2004-2006 listing decisions. In some cases, the State also applied the weight-of-evidence assessment methodology of the State Listing Policy to support decisions to list waters and pollutants. EPA reviewed the application of the State Listing Policy's decision rules with respect to the waters not included on the final list and concluded that for the most part the State's assessment decisions are consistent with federal listing requirements and applicable water quality standards. EPA, relying on federal listing regulations and guidance, has determined that some waters and/or pollutants that meet the Federal listing requirements were excluded from the State's 303(d) List. The basis for EPA's decisions to add several waters/pollutants is discussed in greater detail in the following section.

### **IV. Basis for EPA Decisions to Add Waters To California's List**

This section describes the basis for EPA's decisions to (1) disapprove the State's decision to not list several water bodies and associated pollutants, and (2) add these water bodies and associated pollutants to the 2004-2006 Section 303(d) List. EPA analyzed the State's waterbody assessments and supporting rationales to determine whether the State's decisions not to list waters were consistent with federal listing requirements and the provisions of state water quality standards. The State is required to evaluate potential violations of both narrative and numeric water quality objectives (40 CFR 130.7(b)(3)).

During the development of the State Listing Policy, EPA expressed repeated concerns with some provisions of the State Listing Policy which appear to be inconsistent with certain aspects of the State's applicable water quality standards. EPA's concerns related to, among other things, the application of numeric water quality standards for toxic and conventional pollutants, and the interpretation of narrative water quality standards.

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EPA reviewed the State's assessment of toxic pollutants in comparison with applicable standards. The California Toxics Rule (CTR) contains numeric water quality standards for 126 toxic pollutants to protect aquatic life and human health in fresh and saline waters. See, 65 FR No. 97, pp. 31,681-31,719 (May 18, 2000). The CTR provides that toxic pollutant standards are not to be exceeded more than once in three years on average. The State's application of a binomial statistical method to assess attainment of water quality standards for toxicants appears to yield some assessment conclusions that are inconsistent with this CTR provision and has resulted in the omission of several waters that should be listed as impaired.

EPA reviewed assessments of conventional pollutants such as pH, dissolved oxygen and bacterial indicators to ensure their consistency with provisions of numeric water quality objectives in each Regional Board's Basin Plan. The objectives for pH established in each Regional Board's Basin Plan are typically defined as minimum values that "are not to be exceeded at any time" or may be evaluated based on the 85<sup>th</sup> or 90<sup>th</sup> percentile. State bacteria standards to protect recreational uses are provided for by either California Department of Health Services (DHS, 1999) for coastal waters or within each Regional Board Basin Plan for in-land freshwaters. Consistent with Assembly Bill 411, the DHS standards allow as few as 4% exceedences of single sample results if monitoring occurs only during summer months (April to October). Several Basin Plans provide that bacterial indicator objectives may not be exceeded in more than 10% of available samples (Central Coast and San Diego RWQCB Basin Plans). The State Listing Policy's binomial method applies a 25% allowable exceedence rate for conventional pollutants that is inconsistent with some applicable objectives and has resulted in exclusion of waters that should be listed as impaired.

When determining whether to add waters to California's 303(d) List, EPA first considered provisions within State water quality standards and, if necessary, we referred to listing criteria contained in EPA's water quality assessment guidance documents (EPA 1997, 2001, 2003, 2005). Where necessary, EPA also interpreted narrative standards to evaluate pollutants for which numeric standards are not in place.

### A. Numeric Standards

EPA concludes that the State's decision not to list some waters and pollutants due to exceedences of numeric water quality standards for various pollutants is inconsistent with State water quality standards and federal listing requirements.

#### 1. Assessment of Standards Exceedences for Toxic Pollutants

After review of the State's assessments related to toxic pollutants and protection of freshwater aquatic life, EPA identified the following waters as meeting federal listing requirements for failure to meet a CTR water quality standard: Feather River (Regional Board 5) for copper; New River (Regional Board 7) for copper; and several segments of the San Gabriel River (Regional Board 4) for selenium and metals.

#### 2. Assessment of Conventional Standards Exceedences for Bacteria and pH

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After review of the State's assessment related to conventional pollutants and protection of freshwater aquatic life, EPA identified Loveland Reservoir (Regional Board 9) as meeting federal listing requirements for failure to implement the water quality objective for pH as outlined in the San Diego RWQCB Basin Plan.

In the State Board's resolution approving the 2004-2006 303(d) List, the Board encouraged EPA, with the assistance of State Board staff, to carefully review additional data supporting the listing of several coastal beaches. See, State Board Resolution No. 2006-0079, p. 2. EPA has completed its review, and identified 44 waters as meeting federal listing requirements for failure to implement the water quality standard for bacteria. EPA's determination to list the coastal waters was based the bacteriological standards for waters adjacent to public beaches, as established in California Department of Health Services, California Code of Regulations, Title 17, Article 4, sub-section 7958 (1999).

Our bacteria assessment procedures involved several steps. At least three years of monitoring data were required for assessment of each waterbody; this was satisfied for all beaches. Some beaches contained monitoring results from more than one sampling site and the analyses were typically aggregated for each beach before reaching a final assessment decision (i.e., no segmentation of named beaches). Where feasible, geometric mean results were calculated using 5 or more samples for each site collected within a 30-day period. Geometric mean results were compared to the appropriate standard for each indicator (i.e., total, fecal, and enterococci). We initially generated "rolling" geometric means to determine exceedences. Next we analyzed the geometric mean exceedences to evaluate if any particular sample measurement had sufficiently high magnitude as to affect several rolling geometric means (i.e., no double counting). Then the geometric mean exceedences were analyzed on annual basis. Impairment was determined by at least one geometric mean exceedence in recent three years or two or more geometric mean exceedences over five years. We also evaluated individual sample results relative to single sample maximum standards for each bacterial indicator (i.e, total, fecal, enterococci and fecal/total ratio). Greater than 10% exceedence rates of single sample results was considered conditions of impairment. For those waters with monitoring results available only in summer months (April- October), we applied the 4% allowable exceedence rate for single sample results. Finally, we applied the multiple lines of evidence approach in our assessments to determine impairment, where several bacterial indicators may have showed sufficient exceedences to support listing.

For those beaches within Los Angeles and Ventura County, within the Los Angeles Regional Water Quality Control Board's (RWQCB) jurisdiction, we applied the applicable bacteriological standards modified by the Los Angeles RWQCB in 2002 and approved by EPA in 2003. This assessment included a wet weather versus dry weather analysis and applying the reference beach approach for single sample results (Los Angeles RWQCB, 2002).

The Palo Verde Outfall Drain (Colorado River Region) was included on California's 1998 Section 303(d) List due to bacteria. Palo Verde Outfall Drain was not included on the State's 2004-2006 Section 303(d) List for bacteria, although the water body is included on the State's list for DDT. EPA understands that the State's determination to omit Palo Verde Outfall Drain from its 2004-2006 list for bacteria was based primarily upon the State's assessment of *E. coli* data. After review of the State's assessment, EPA has determined that Palo Verde Outfall



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Drain meets the federal listing requirements due to bacteria. Our assessment included examination of sampling data for three bacterial indicators: *E. coli*; fecal coliform; and *enterococci*. Sampling data includes six exceedences of single sample criteria for fecal coliform (15%) and 41 exceedences of single sample criteria for *enterococci* (100%) out of 41 monthly sample results from seven sites within the water body (Colorado River RWQCB, 2005). In the context of EPA's listing, the Palo Verde Outfall Drain consists of (a) the oxbow reach that flows through Palo Verde, CA, (b) Simpson Cut, and (c) the reach downstream of the confluence of Simpson Cut and the oxbow, to the confluence with the Colorado River.

### B. Narrative Standards

After reviewing the State's assessment of various sediment chemistry, sediment toxicity data, and ambient water toxicity data, EPA applied the sediment quality guideline values identified in the State's Listing Policy. See, submittal, Staff report Vol. 1, Table 1.

#### 1. Exceedences Based Upon Sediment Chemistry and Toxicity Data

EPA identified the following waters in the Los Angeles/Long Beach Harbor Area as meeting federal listing requirements based on data showing elevated pollutant levels in sediment and data showing either benthic community degradation or sediment toxicity: Consolidated Slip; Fish Harbor; Inner and Outer Harbor.

#### 2. Exceedences Based Upon Ambient Toxicity Data

EPA reviewed ambient toxicity results in the San Gabriel River watershed and identified two water bodies as impaired due to ambient toxicity. Recently available monitoring results for Coyote Creek and San Jose Creek showed evidence of water column toxicity in dry and wet weather samples (SCCWRP 2006). Toxicity was defined as less than 75% survival or reproductive success in the sample relative to the control organism response.

### C. TMDLs that have not been approved

It appears the State did not include some waters on its 303(d) List, because the State had anticipated TMDLs to be completed and approved by EPA at the time of the State's submittal. However, the TMDLs for the respective waters and pollutants have not yet been completed. EPA has reviewed available data and confirmed that impairments still exist within segments of San Gabriel River for metals and waterbodies of Los Angeles River for trash. Accordingly, EPA has identified these waters as meeting federal listing requirements and is adding them to the State's 2004-2006 list.

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### **D. Delisting based on Inaccurate Site Information**

The State determined not to include two Santa Monica beach segments (near Ashland Avenue Drain, and Pico Kenter Drain, respectively) on its 2004-2006 Section 303(d) List. The State evidently determined to omit the two beach segments from its list based, in part, on its understanding that sampling in those areas had been collected within stormdrain conveyances and were not representative of conditions of the respective beaches. The two segments were included on the State's 2002 Section 303(d) List for high coliform count. EPA reviewed the sampling data, and confirmed that the sampling occurred at ankle depth in the ocean wave wash. EPA concludes that the sampling results are indicative of water conditions at the respective beach segments and, based upon the sampling data, has identified the segments as meeting federal listing requirements. According to the State's Listing Policy, these waters should be included on the State's 303(d) List, specifically in the category of Water Quality Limited Segments Being Addressed by USEPA Approved TMDLs.

### **V. Good Cause for Delisting**

California did not include 204 water body-pollutant combinations on the 303(d) List because analysis of available monitoring data supported a conclusion that applicable standards were no longer exceeded. See, submittal, Staff report vol.1, Table 9. EPA asked California to provide rationale for its decision not to include on its 2004-2006 Section 303(d) List several waters that were included on its 2002 Section 303(d) List. Except for the water body-pollutant combinations noted above, the State demonstrated to EPA's satisfaction good cause for not listing each of the waters. See, 40 CFR 130.7(b)(6)(iv).

California determined not to include Stege Marsh in San Francisco Bay on its 2004-2006 Section 303(d) List for toxicity, based in part on its determination that any impairment would be addressed via other pollutant control requirements. EPA requested that the State provide a more detailed rationale to support its determination. The State provided information indicating that the San Francisco Regional Water Quality Control Board had issued a clean up and abatement order, which had already been implemented. As follow up to this remediation project, the State will continue to monitor sediment chemistry and toxicity to evaluate improvements to water quality. EPA concurs with State's decision that technology-based controls and regulatory action have been appropriately pursued in lieu of TMDL development and in this case it should result in water quality improvements in Stege Marsh.

### **VI. Walnut Creek Toxicity (San Gabriel River watershed)**

EPA has reviewed the State's decision to retain Walnut Creek toxicity (in the San Gabriel River watershed) on its Section 303(d) List. EPA has also reviewed the available data regarding this waterbody. Toxicity was observed in 1992-93 by UC Davis researchers. Recent results from 2003-2005 show no toxicity in wet and dry weather (SCCWRP 2006). EPA is deferring action on the State's determination to list this waterbody-pollutant combination.

EPA recommends further monitoring in this waterbody to confirm that there is no continued impairment and to support appropriate water quality management actions to address any potential cause(s) of impairment. While EPA is not taking any action to approve or

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disapprove the State's list due to the inclusion of Walnut Creek, neither the State nor EPA has an obligation under current EPA regulations to develop TMDLs for this waterbody because the water is no longer impaired. States have the discretion under Section 303(d), which charges States with the primary responsibility to identify WQLSs for TMDL development, and Section 510, which authorizes States to adopt more stringent pollution controls, to include waters on their Section 303(d) Lists that may not be required to be included by current EPA regulations, and EPA's regulations do not compel the Agency to disapprove the State's list because of the inclusion of such waters. EPA guidance also recognizes that States may take a conservative, environmentally protective approach in identifying waters on their Section 303(d) Lists. See, EPA Guidance (1997).

### VII. Public Comments

EPA carefully reviewed the State's detailed responses to several thousand comments received from the public during the list development process. EPA commends the State for its intensive effort to involve the public in Section 303(d) List decision-making. EPA found the State's responses to public comments reasonable and in accordance with federal listing requirements.

Commenters raised concerns about the presence of algae within certain waters. Specific concerns addressed both sides of this issue. Some commenters felt the State had inappropriately delisted algae in some cases (San Gabriel River waters); whereas others wrote to support delisting algae in these waters. EPA has reviewed the State's approach regarding algae listings and delistings in several waters and we find considerable variability in the assessment protocols, the available data for interpretation and the incomplete application of nutrient evaluation guidelines. We recommend the State re-visit and expand its assessment methodology for evaluating algae and possible impacts to designated uses. We urge the State to improve algae assessments by evaluating, where feasible, several lines of evidence; e.g., nitrogen and phosphorus, chlorophyll a and dissolved oxygen data. Furthermore, we promote the use of several existing nutrient guidelines for assessments, including possible application of the narrative nutrient criteria currently being developed by the State. This topic of algae assessments is one of several aspects of the Listing Policy that should be re-evaluated and clarified during a future "lessons learned" workshop to be hosted by State Board.

Some commenters expressed concern that Klamath River reservoirs were not listed for the blue green algae, *Microcystis aeruginosa*. EPA notes that State Board members debated the issue of adding blue green algae and eventually decided that since these waters were already listed for several pollutants (nutrients, dissolved oxygen and temperature), it was more appropriate to address the causative agents which are presumed to contribute to excessive algal growth. We recognize that Humboldt State University is now serving as lead agency amongst many stakeholders to initiate a three-year study of blue green algae in these waters to gather more monitoring data and relevant information. Separately, EPA has committed to analyzing fish tissue for toxins associated with *microcystis*, thereby evaluating potential human health risk via consumption of fish caught in these waters. Some or all of these monitoring results may be evaluated as part of the next 303(d) listing cycle.

EPA and the State are currently developing TMDLs to address the 303(d) listed pollutants for various waters in the Klamath River basin. For example, EPA has developed

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nutrient TMDLs for the Lower Lost River and will soon have documents available for public review. See, factsheet at <http://www.epa.gov/region09/water/watershed/tmdls-fact-sheet-lower-lost-river-906.pdf>. EPA and the State are currently developing nutrient and temperature TMDLs for the Klamath River mainstem and its reservoirs. Upon implementation of these TMDLs, we anticipate that reduced nutrient and temperature levels will concurrently minimize ambient conditions that contribute to *microcystis* and other algae growth.

During the list development process, EPA identified concerns about California's proposed listing decisions which appeared to conflict with federal listing regulations. The EPA staff report entitled "Summary of Resolution of Issues Raised by EPA Concerning California's Draft 2004-2006 303(d) List" (Kozelka, 2007) discusses the resolution of such waters where EPA disagreed with the State's initial assessment decisions.

Finally, we found that the State articulated a valid basis for taking an incremental approach to list revision, and that the State's decision not to reassess every water body included on the Section 303(d) List was reasonable given that they did evaluate thousands of waterbody-pollutant combinations.

### **VIII. Administrative Record Supporting This Action**

In support of this decision to partially disapprove the California's listing decisions, EPA carefully reviewed the materials submitted by California with its 303(d) listing decision. The administrative record supporting EPA's decision to add certain waters and/or pollutants is comprised of the materials submitted by the State, copies of Section 303(d), associated federal regulations, supporting EPA staff memoranda, EPA guidance concerning preparation of Section 303(d) lists, EPA's past comments on California's listing methodology and draft list, our November 2006 partial approval decision letter, this partial disapproval letter and supporting reports. EPA determined that the materials provided by the State with its submittal generally provided sufficient documentation to support our analysis and findings that the State decisions to not list waters (except as noted above) meet the requirements of the Clean Water Act and associated federal regulations. We are aware that the State compiled and considered additional materials (e.g., raw data and water quality analysis reports) as part of its list development process that were not included in the materials submitted to EPA. EPA did not consider all of these additional materials as part of its review of the listing submittal. Federal regulations do not require the State to submit all data and information considered as part of the listing submittal. At EPA's request, the State did provide additional materials on case-specific basis for our review of the raw data and other relevant information. EPA's decisions to add certain waters and/or pollutants to the State's proposed final 303(d) List is supported by the monitoring data and information available within the State's administrative record and additional material cited in References.

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### IX. References

#### A. Documents provided by the State

California State Water Resources Control Board (SWRCB), 2006. Transmittal of the 2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments for California. Letter to Alexis Strauss, USEPA and three CDs of supporting materials, including the staff listing report, fact sheets, and responsiveness summary, November 21, 2006.

California Department of Health Services, 1999. Regulations for Ocean Beach and Ocean Water Contact Sports Areas. Title 17, Article 4, regarding bacteria standards.

Central Coast RWQCB, 1994. Water Quality Control Plan for Central Coast Basin. Water Quality Objectives, Chapter 3, Water Quality Objectives.

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## **Enclosure 1: Review of California's 2004-2006 Section 303(d) List**

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**Table 1: Waterbodies and/or pollutants added by EPA to California’s 2004-2006 Section 303(d) List -- Arranged by Regional Board and hydrologically connected units.**

<b>RB</b>	<b>State Assessment Decision</b>	<b>Waterbody name</b>	<b>Pollutant</b>	<b>EPA assessment summary and Recommendation</b>
4	Do Not List	Consolidated Slip	Dieldrin Benzo[a]-anthracene, Benzo[a]-pyrene Chrysene, Pyrene, Phenanthrene, 2-Methyl-naphthalene	Available data shows evidence of sediment toxicity and sediment chemistry exceedences these compounds: Dieldrin (4/16 samples) Data record: 1992-1997, CSTF database Benzo[a]anthracene (15/53 samples); Benzo[a]pyrene (23/57); Chrysene (16/53); Pyrene (28/53); Phenanthrene (13/53); 2-Methylnaphthalene (12/50). Data record: 1992-2002, CSTF database Multiple lines of impairment based on violation of narrative water quality objectives.
4	Do Not List	LA/LB Harbor— Inner Harbor	Copper Zinc	Available data shows evidence of sediment toxicity, benthic community impacts and sediment chemistry exceedences for these pollutants: copper (18/627) and zinc (35/716) samples. Data record: 1992-2001, CSTF database Multiple lines of impairment based on violation of narrative water quality objectives.
4	Do Not List	LA Harbor—Fish Harbor	Benzo[a]-pyrene	Available data shows evidence of sediment toxicity and sediment chemistry exceedences for this compound. (11/13 samples) Data record: 1992-2001, CSTF database Multiple lines of impairment based on violation of narrative water quality objectives.
4	Do Not List	LA/LB Outer Harbor	Sediment toxicity	Available data show sediment toxicity exists in this waterbody. 9/ 37 samples are moderately or highly toxic. Data record: 1991-2001, CSTF database Impairment based on narrative water quality objectives.
4		LA River Reaches 1,2,3,4,5 LA River Estuary Arroyo Seco R1 & R2 Burbank Western Channel Echo Park Lake, Lincoln Park Lake Peck Road Lake, Rio Hondo R1,	Trash	Available data show evidence of violations of narrative WQOs based on tonnage of trash in stormwater reports. Data record: 1994-2005, City of Long Beach Stormwater Div.

<b>Table 1: Waterbodies and/or pollutants added by EPA to California's 2004-2006 Section 303(d) List -- Arranged by Regional Board and hydrologically connected units.</b>				
<b>RB</b>	<b>State Assessment Decision</b>	<b>Waterbody name</b>	<b>Pollutant</b>	<b>EPA assessment summary and Recommendation</b>
		Tujunga Wash, Verdugo Wash		
4	Delist	Coyote Creek Reach 1	Lead Zinc	Available data indicate numeric CTR objectives are violated for lead (7/62) and zinc (6/62) results. Data record: 2003-2006, LA RWQCB comment letter, 2006 Impairment based on exceedences of numeric water quality objectives.
4	[no assessment decision]	Coyote Creek	Toxicity	Available data show ambient toxicity (30/203) in both wet and dry weather samples. Data record: 2003-2006, SCCWRP, 2006 Impairment based on violations of narrative water quality objectives.
4	[no assessment decision]	San Jose Creek Reach 1	Selenium	Available data indicate numeric CTR standards are violated for total selenium (11/78) results. Data record: 2003-2006, LA RWQCB comment letter, 2006 Impairment based on exceedences of numeric water quality objectives.
4	[no assessment decision]	San Jose Creek Reach 1	Toxicity	Available data show ambient toxicity (12/60) in both wet and dry weather samples. Data record: 2003-2006, SCCWRP, 2006 Impairment based on violations of narrative water quality objectives.
4	[no assessment decision]	San Gabriel River Estuary	Copper	Available data indicate numeric CTR standards are violated for copper (5/40) results. Data record: 2003-2006, LA RWQCB comment letter, 2006 Impairment based on exceedences of numeric water quality objectives.



5	Do Not List	Feather River – North Fork (below Lake Almanor)	Copper	Available data indicate numeric CTR standards are violated for Copper (10/124) samples. Data record: 1999-2003, PG&E data Impairment based on exceedences of numeric water quality objectives.
7	Do Not List	New River (Imperial)	Copper	Available data indicate numeric CTR standards are violated for Copper (6/98) samples. Data record: 1995-2003, Colorado River RWQCB data Impairment based on exceedences of numeric water quality objectives.
7	Delist	Palo Verde Outfall Drain and Palo Verde Lagoon	Pathogens	Available data indicate numeric WQO violations for the following bacterial indicators: fecal coliform (6/41); enterococci (41/41) and E. coli (2/41) samples. Fecal and enterococci results are greater than single sample criteria by more than 10% exceedence rate. (Monthly samples not feasible for geomean analysis.) Data record: 2000-2002, CO RWQCB draft TMDL report, 2005 Impairment based on exceedences of numeric water quality objectives.
9	Do Not List	Loveland Reservoir	pH	Available data indicate greater than 10% exceedences of Basin Plan numeric WQO for pH (35/212) samples. Data record: 1997-2000, USGS and Sweetwater Authority Impairment based on exceedences of numeric water quality objectives.

**Table 2: Waterbodies/Pollutants added by EPA to California’s 2004-2006 Section 303(d) List – Coastal Beaches impaired for bacterial indicators**

<b>RB</b>	<b>Waterbody name</b>	<b>Pollutant</b>	<b>Comment &amp; Recommendation</b>
1	Campbell Cove	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM fecal (36/182), SSM enterococci (58/182), geomean enterococci (69) Data record: 2001-2005, Sonoma County Health Dept. Impairment based on exceedences of numeric water quality objectives.
1	Clam Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator samples: geomean enterococci (5) Data record: 2003-2005, Humboldt County Health Dept. Impairment based on exceedences of numeric water quality objectives.
1	Doran Regional Park	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (5) Data record: summers 2001-2005, Sonoma County Health Dept. Impairment based on exceedences of numeric water quality objectives.
1	Luffenholtz Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean enterococci (3) Data record: 2003-2005, Humboldt County Health Dept. Impairment based on exceedences of numeric water quality objectives.
1	Moonstone County Park	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean total coliform (2) Data record: 2003-2005, Humboldt County Health Dept. Impairment based on exceedences of numeric water quality objectives.
1	Salmon Creek Park	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean enterococci (10) Data record: summers 2001-2005, Sonoma County Health Dept. Impairment based on exceedences of numeric water quality objectives.
1	Trinidad State Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean enterococci (4) Data record: 2003-2005, Humboldt County Health Dept. Impairment based on exceedences of numeric water quality objectives.

2	Aquatic Park	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM fecal (38/254); SSM enterococci (45/253); geomean enterococci (93) Data record: 2002-2005, San Francisco County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	Baker Beach (3 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (42/331), geomean enterococci (62) Data record: 2002-2005, San Francisco County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	Bolinas Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (6/80) Data record: summers 2003-2005, Marin County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	Candlestick Point (3 areas: Jackrabbit, Windsurfer, Sunnysdale Cove)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM total coliform (74/698), SSM enterococci (120/698), geomean enterococci (233) Data record: 2002-2005, San Francisco County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	Chicken Ranch	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM total coliform (13/139); SSM fecal (9/140); SSM enterococci (25/140), geomean enterococci (20) Data record: summers 2003-2005, Marin County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	China Camp	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (5/90); SSM total coliform (5/91), geomean total coliform (20) Data record: summers 2003-2005, Marin County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	Crissy Field (2 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (64/425), geomean enterococci (131) Data record: 2002-2005, San Francisco County Health Dept. Impairment based on exceedences of numeric water quality objectives.

2	Golden Hinde	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (5/91); geomean enterococci (6); geomean total coliform (9) Data record: summers 2003-2005, Marin County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	Heart's Desire	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (5/91); SSM fecal coliform (4/91) Data record: summers 2003-2005, Marin County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	Lawson's Landing	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (9/91); geomean enterococci (11) Data record: summers 2003-2005, Marin County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	Linda Mar Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean total coliform (18), geomean fecal (17), geomean enterococci (40) Data record: 1998-2005, San Mateo County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	McNears Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (6/84); geomean total coliform (13) Data record: summers 2003-2005, Marin County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	Millerton Point	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (6/84); geomean enterococci (3), geomean total coliform (8) Data record: summers 2003-2005, Marin County Health Dept. Impairment based on exceedences of numeric water quality objectives.
2	Muir Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean total coliform (12), geomean enterococci (18) Data record: 2003-2005, Marin County Health Dept. Impairment based on exceedences of numeric water quality objectives.

3	Capitola Beach (3 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (78/556); geomean enterococci (86); geomean fecal (55) Also fecal SSM objectives show high exceedences (51/558). Data record: 2000-2005, Santa Cruz County Health Dept. Impairment based on exceedences of numeric water quality objectives.
3	Goleta Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (39/358), geomean enterococci (72); geomean fecal (14) Data record: 1999-2005, Santa Barbara County Health Dept. Impairment based on exceedences of numeric water quality objectives.
3	Haskell's Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean enterococci (21); geomean enterococci (72) Data record: 2001-2005, Santa Barbara County Health Dept. Impairment based on exceedences of numeric water quality objectives.
3	Leadbetter Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (49/352), geomean enterococci (72) Data record: 1999-2005, Santa Barbara County Health Dept. Impairment based on exceedences of numeric water quality objectives.
3	Pismo Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean enterococci (15); SSM fecal coliform (20/219) Data record: 2001-2005, San Luis Obispo County Health Dept. Impairment based on exceedences of numeric water quality objectives.
3	Rio Del Mar Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (44/283), geomean enterococci (64) Data record: 2000-2005, Santa Cruz County Health Dept. Impairment based on exceedences of numeric water quality objectives.
3	Stillwater Cove (at Beach and Tennis Club)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM fecal coliform (18/175), geomean enterococci (13) Data record: 2001-2005, Monterey County Health Dept. Impairment based on exceedences of numeric water quality objectives.
4	Alamitos Bay (4 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean total coliform (44), geomean fecal (32), geomean enterococci (48) Data record: 2000-2005, Los Angeles County Health Dept. Impairment based on exceedences of numeric water quality objectives.
4	Colorado Lagoon (3 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean total coliform (170), geomean fecal (42), geomean enterococci (52) Data record: 2001-2005, Los Angeles County Health Dept. Impairment based on exceedences of numeric water quality objectives.

4	Latigo Beach (2 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (53/321), geomean enterococci (79) Data record: 2000-2005, Los Angeles County Health Dept. Impairment based on exceedences of numeric water quality objectives. This waterbody is part of Santa Monica Bay Bacteria TMDLs, already approved by EPA.
4	Long Beach City (13 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean total coliform (287), geomean fecal (110), geomean enterococci (281) Data record: 1999-2005, Los Angeles County Health Dept. Impairment based on exceedences of numeric water quality objectives.
4	Ormond Beach (3 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean total coliform (25), geomean enterococci (61) Data record: 1999-2005, Ventura County Health Dept. Impairment based on exceedences of numeric water quality objectives.
4	San Buenaventura Beach (4 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: geomean total coliform (95), geomean enterococci (84) Data record: 1999-2005, Ventura County Health Dept. Impairment based on exceedences of numeric water quality objectives.
4	Solstice Canyon Beach (2 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (13/88), geomean enterococci (32), and geomean total coliform (30) Data record: 2000-2005, Los Angeles County Health Dept. Impairment based on exceedences of numeric water quality objectives. This waterbody is part of Santa Monica Bay Bacteria TMDLs, already approved by EPA.
4	Westward/Zuma Beach (2 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (35/313), geomean enterococci (54), and geomean total coliform (20) Data record: 2000-2005, Los Angeles County Health Dept. Impairment based on exceedences of numeric water quality objectives. This waterbody is part of Santa Monica Bay Bacteria TMDLs, already approved by EPA.

8	Huntington Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (168/1489), geomean enterococci (173) Data record: 2000-2005, County of Orange, Health Dept. Impairment based on exceedences of numeric water quality objectives.
8	Newport Bay (14 areas)	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (413/3323), geomean enterococci (719), geomean total coliform (149), geomean fecal (216) Data record: 2000-2005, County of Orange, Health Dept. Impairment based on exceedences of numeric water quality objectives. This waterbody is part of Newport Bay Bacteria TMDLs, already approved by EPA.
9	La Jolla—Children’s Pool	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM fecal coliform (46/73), fecal geomean (30) Data record: 2000-2005, San Diego County Health Dept. Impairment based on exceedences of numeric water quality objectives.
9	Monarch Beach	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (45/337), geomean enterococci (78), total coliform geomean (6) Data record: 2001-2005, San Diego County Health Dept. Impairment based on exceedences of numeric water quality objectives.
9	Mission Bay	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (576/3662), geomean enterococci (959/2933), and SSM fecal coliform (333/3365) Data record: 2000-2005, San Diego County Health Dept. Impairment based on exceedences of numeric water quality objectives.
9	San Diego Bay- Bayside Park	Bacterial Indicators	Available data indicate sufficient exceedences of bacterial indicator objectives: SSM enterococci (36/233), geomean enterococci (40), and geomean total coliform (11) Data record: 2000-2005, San Diego County Health Dept. Impairment based on exceedences of numeric water quality objectives.