CITY OF
SANTA ROSA

UTILITIES DEPARTMENT
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2 July 2003

Mr. David W. Smith
TMDL Team Leader
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105

Subject: Proposed Decision to List Laguna de Santa Rosa for Phosphorus

Dear Mr. Smith:

Thank you for the opportunity to provide comments on U.S. EPA Region 9's proposed decision to list the Laguna de Santa Rosa for phosphorus under Clean Water Act section 303(d) ("proposed 303(d) list"). Attached to this letter are the City's detailed technical comments on the proposed decision. We appreciate your careful consideration of the issues raised regarding the proposed listing and the rationale for the State Water Resources Control Board and the North Coast Regional Water Quality Control Board's decisions to place the Laguna de Santa Rosa on the "monitoring list" for phosphorus.

In addition to transmitting our technical comments, the purpose of this letter is to provide EPA with some further background regarding the City's long-standing and ongoing commitment to water quality improvement in our region. The City of Santa Rosa, as manager of the Santa Rosa Subregional Reclamation System, has demonstrated a strong commitment to water quality protection and water recycling. Examples of this commitment include:

- Santa Rosa Plain Water Recycling System - A 5,700-acre agricultural and urban water reuse system supplying tertiary treated irrigation waters.

- Nitrogen Load Reduction Program – The City conducted a $250,000 total maximum daily load ("TMDL") study that was used by the Regional Water Quality Control Board to allocate nitrogen reduction goals among various watershed sources. To reduce the nitrogen load from the wastewater discharges, the City upgraded its 21 million gallon per day (mgd) tertiary Laguna treatment plant to reduce total nitrogen from 18 to 7 mg nitrogen per liter -- *more than a 50 percent reduction.* To reduce the load from agricultural sources, the City established a zero-interest dairy improvement loan fund. More than $1 million dollars has been loaned to date. Loans are repaid through contracts for the purchase and use of recycled water.

- Wetlands Program – The City has created three wetlands for purposes of habitat creation and recycled water polishing.

- Geysers Recharge Project – The City is currently constructing a $160 million project to inject 11 mgd recycled water in the Geysers steamfield for 85 megawatt electric power production. This project demonstrates our region's efforts to improving water quality while helping to supply much-needed and environmentally-friendly energy to the region.

- Incremental Recycled Water Program – The City is developing the next generation of recycling projects to offset potable water demand, restore steelhead habitat, and protect water quality.

Our track record shows that the City has consistently demonstrated its willingness to fund programs that address real water quality issues. We are concerned that listing the Laguna de Santa Rosa for phosphorus -- when ***all of the available data*** demonstrate that phosphorus is ***not*** the limiting pollutant in the Laguna -- may have the effect of diverting limited water quality protection resources away from real water quality issues. Specifically, the proposal to list the Laguna de Santa Rosa as impaired due to phosphorus is not supported by water quality data or information and will not enhance efforts to protect beneficial uses.

During the State's process for updating the 303(d) list, the City and its representatives provided extensive information and data to demonstrate that phosphorus is ***not*** the limiting nutrient in the Laguna. The State Board staff, along with Regional Board staff, carefully considered this information and recommended that the State Board place the Laguna on the "monitoring list" for phosphorus. The State Board agreed, and we believe the record supports the State Board's action.

The City of Santa Rosa remains strongly committed to do its part to protect water quality in our region. We urge EPA to place the Laguna de Santa Rosa on the "monitoring list" for phosphorus, which will enable the City and the Regional Board to move forward with a more focused study of the Laguna to determine the specific limiting pollutants, rather than divert resources to development of a phosphorus TMDL, which may not improve water quality conditions in the Laguna.

Thank you for consideration of our concerns.

Sincerely,

Miles Ferris
Utilities Director

cc: Tom Mumley, SWRCB TMDL Coordinator
Craig J. Wilson, SWRCB
David W. Smith, Ph.D., Merritt Smith Consulting
Craig Johns, California Resource Strategies
Roberta Larson, Somach, Simmons & Dunn

MERRITT SMITH
CONSULTING
ENVIRONMENTAL SCIENCE AND COMMUNICATION

MEMORANDUM

TO: Mr. David Smith
TMDL Team Leader
U.S. EPA

FROM: Marcie Commins, Ph.D.
Dave Smith, Ph.D.

COPIES: Dan Carlson, City of Santa Rosa
Craig S.J. Johns, California Resource Strategies
Bobbi Larson, Somach, Simmons & Dunn

DATE: 27 June 2003

SUBJECT: U.S EPA 2002 303(d) List Recommendations

The purpose of this memorandum is to summarize the concerns of the City of Santa Rosa (hereafter, "Santa Rosa") with regard to the current proposal of the U.S. EPA, set forth in a letter from Alexis Strauss, EPA Region 9 to Celeste Cantú, State Water Resources Control Board dated February 28, 2003, to include the Laguna de Santa Rosa on the 2002 303(d) List for nutrients, and overturn the SWRCB decision to place the Laguna on the Monitoring List, with the concurrence of the North Coast Regional Water Quality Control Board.

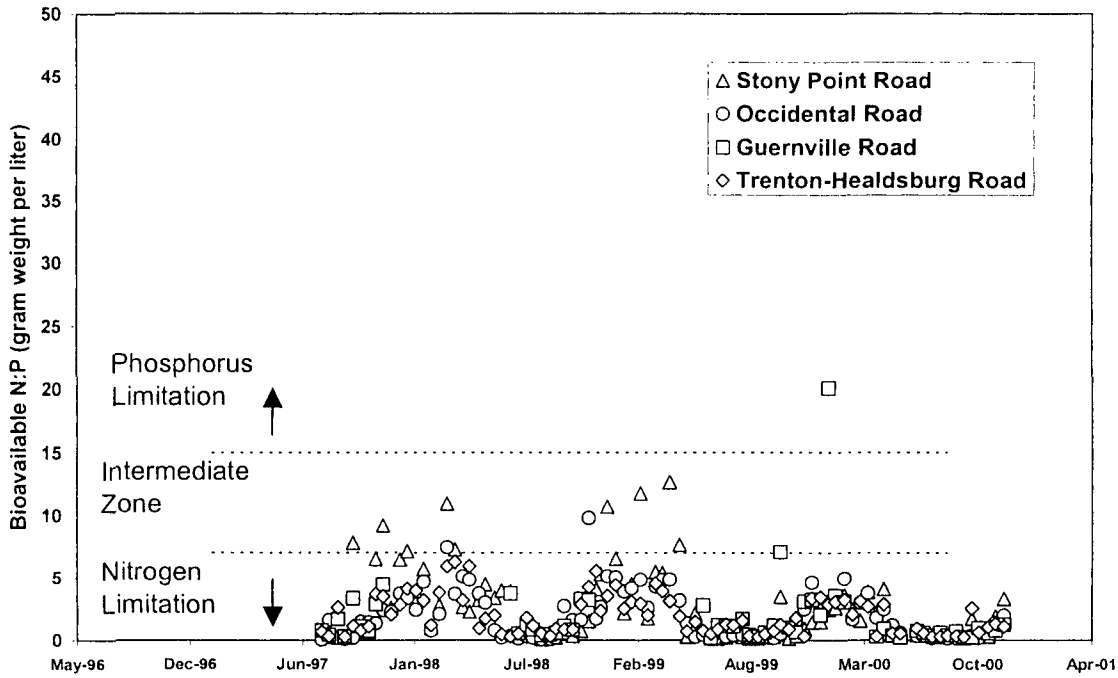
Analysis of the appropriateness of the 303(d) listing of the Laguna for nutrients.

A memorandum from Santa Rosa to the SWRCB, dated 1 May 2002, sets forth the rationale for not including the Laguna on the 303(d) List for nutrients. The reasons for the City's position include:

- The Regional Water Board is concerned about dissolved oxygen levels in the Laguna. Nutrients can affect oxygen through stimulation of algae, which deplete oxygen at night when not photosynthesizing and upon their death and decomposition. However, the link between algae and dissolved oxygen depletion in the Laguna has never been substantiated. Chlorophyll *a* data in the Laguna are limited in number and spatial extent. In fact, according to the Regional Board, "the cause of the low dissolved oxygen levels is not certain" (North Coast Regional Water Quality Control Board November 16, 2001 303(d) List Update Recommendations (Staff Recommendations)). Other factors may be causing the low dissolved oxygen. For example organic loading contributes to the oxygen deficit, but organic loading, like algal biomass, has not been adequately studied.

- Even if algae were controlling oxygen in the Laguna, phosphorus is not the algal-growth limiting nutrient in the Laguna. The Staff Recommendations point out that data show that *nitrogen* - - and not phosphorus - - is the limiting nutrient in the Laguna. The ratio of bioavailable N to P is an indication of which nutrient is limiting in an aquatic system. Figure 1 shows the ratio of N to P in the Laguna for data collected by the NCRWQCB that is the basis for the Regional Board staff's conclusion that nitrogen is the likely limiting nutrient in the Laguna.

Figure 1. Ratio of Bioavailable N:P in the Laguna
(from Roth, 2001, RWQCB ref#118)



- More study is needed to determine whether elevated phosphorus in the Laguna is the cause of the low dissolved oxygen and whether reducing phosphorus will result in improving dissolved oxygen in the Laguna. Without these additional studies, placing the Laguna on the 2002 303(d) List for phosphorus could result in massive economic impacts to the ratepayers of Santa Rosa with no known or reasonably expected environmental benefits. The SWRCB recognized the merit of these arguments, and decided to place the Laguna on the Monitoring List for phosphorus. Upholding the SWRCB's decision will have no negative environmental impacts, and will not substantially delay the development of a phosphorus TMDL, in the event one is needed after additional monitoring and studies. These studies are a necessary first step to determine whether phosphorus reduction is necessary.

Analysis of the U.S. EPA's rationale for placing the Laguna on the 303(d) list for nutrients rather than on the Monitoring List

The U.S. EPA's review of California's 2002 Section 303(d) List, presented the U.S. EPA's rationale for listing the Laguna for nutrients. (See enclosure to letter from Alexis Strauss, EPA Region 9 to Celeste Cantú, State Water Resources Control Board dated February 28, 2003 (hereafter called EPA review.) Santa Rosa has reviewed the analysis, and we respectfully disagree with the U.S. EPA's analysis for the following reasons:

1. The U.S. EPA review concludes that "the nitrogen and phosphorus levels found in the Laguna far exceed the levels associated with excessive aquatic growths that can adversely affect beneficial uses, and that the Basin Plan narrative water quality standard for biostimulatory substances is violated." While this statement may be true in the abstract, to our knowledge, little or no information on the levels of aquatic growths in the Laguna is available. There is no information presented in the U.S. EPA review to substantiate this statement.

2. The criteria for nitrogen and phosphorus (1 mg/L and 0.1 mg/L, respectively) the U.S. EPA review relies upon to determine what nutrient levels would be protective of the receiving water are inappropriate for the following reasons:

   - The U.S. EPA review cites as evidence for the reasonableness of the nitrogen objective (1 mg/L) the San Diego Regional Basin Plan. However, this objective was developed by taking a 1970's recommendation for phosphorus of 0.1 mg/L and applying a 10:1 N:P ratio, resulting in the N objective of 1 mg/L. The P recommendation is presumably the U.S. EPA's "Red Book" recommendation and is outdated and not based on region-specific, let alone waterbody-specific, information. Similarly, U.S. EPA's application of a 10:1 N:P ratio to derive a standard does not take into account region-specific information. We have taken site-specific information into account when application of the N:P ratio, and site-specific information indicates that phosphorus is not limiting algal growth (see above).

   - The U.S.EPA review cites as evidence for the reasonableness of both the nitrogen and phosphorus objectives the Malibu Creek TMDL document (U.S.EPA 2003, hereafter called MCTMDL).

     - MCTMDL states that various nutrient standards, including the San Diego Regional Board standard, "have little predictive power in explaining the patterns in algal abundance or biomass within the Malibu Creek watershed". The MCTMDL also indicates "uncertainty as to what factors control algal abundances in the Malibu Creek watershed. ... Therefore, when establishing a numeric target to control algal biomass and chlorophyll *a* concentrations, it is

important to consider the factors limiting algal growth. No single study element was identified as the factor most likely limiting algal growth. ... However, it is anticipated that the limiting condition will be determined prior to full implementation of these TMDLs. ... After these determinations, the Regional Board may need to revise these TMDLs." Therefore, the U.S. EPA (in the MCTMDL) acknowledges the criteria (which were also applied by the U.S. EPA to list the Laguna) were determined despite a lack of information to assess whether they were correct, and may need to be revised. Malibu Creek was placed on the 303d list prior to the institution of the Monitoring List by the state.

- The nutrient standards developed in the MCTMDL were summer standards. The winter standard for N was 8 mg/L with no winter standard set for P.

- The EPA review cites as evidence for the reasonableness of both the nitrogen and phosphorus objectives Dodds and Welch (2000) *Establishing Nutrient Criteria in Streams*.

  - Dodds and Welch (2000) states that nutrient criteria should be set depending on the specific reason for setting the criteria. Dodds and Welch (2000) does not provide criteria when the outcome of concern is relieving an oxygen deficit but says an oxygen criterion would be probably greater than levels presented for benthic chlorophyll *a*. Dodds and Welch (2000) states "As more data become available, it will be possible to directly link frequency and severity of low DO events with nutrient loading."

  - The various standards Dodds and Welch (2000) provides for controlling benthic chlorophyll *a* were derived from data collected from temperate streams throughout the world and thus may not be applicable to streams in semiarid regions such as the Laguna. In temperate climates, rain falls for much of the year and is rarely torrential, resulting in more continuous vegetative ground cover and in little natural soil erosion. Regions with semiarid climates have fewer, often larger storms and less continuous ground cover. The main natural source of nitrogen in all watersheds is rainfall, and the main natural source of phosphorus is soil erosion. Thus rivers in semiarid climates tend to have excess phosphate and to be nitrogen-limited, while those in temperate climates have excess nitrate and tend to be phosphorus-limited. (Horne and Goldman, 1994. *Limnology*)

  - Additionally, Dodds and Welch (2000) state "[m]oreover, a large amount of the variance in benthic chlorophyll levels in streams is not related to nutrient levels." They also conclude that "a significant amount of monitoring data are

necessary to refine recommendations for nutrient criteria," including seasonal means and maxima for benthic and planktonic chlorophyll *a*, associated water column nutrients and diurnal DO concentrations. These are the sorts of data would likely be collected in the study on the Laguna the City of Santa Rosa is proposing.

In light of the technical information presented in this letter, Santa Rosa respectfully requests that U.S. EPA approve the SWRCB decision to include the Laguna de Santa Rosa on the Monitoring List. Thank you for the opportunity to provide our comments on U.S. EPA's proposed revisions to the California 2002 303(d) List.

CJW

State Water Resources Control Board

Executive Office

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Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at http://www.swrcb.ca.gov.

JUL 3 2003

Mr. David Smith (W-3-2)
U.S. Environmental Protection Agency,
Region 9
75 Hawthorne Street
San Francisco, CA 94105

Dear Mr. Smith:

PHOSPHORUS LISTING FOR LAGUNA DE SANTA ROSA, NORTH COAST REGION

We have reviewed Ms. Strauss' letter dated June 5, 2003 regarding the State Water Resources Control Board's (SWRCB's) final 2002 Section 303(d) list [303(d) list] submitted to the U.S. Environmental Protection Agency (USEPA) earlier this year. We write specifically with regard to USEPA's decision to list the Laguna de Santa Rosa for the nutrient, phosphorus.

It is our understanding that USEPA rendered this decision because it found the Administrative Record lacking specific information to justify SWRCB's decision to place nutrients on the monitoring list, particularly in light of the North Coast Regional Water Quality Control Board (NCRWQCB) staff's preliminary recommendation to list the Laguna de Santa Rosa as impaired for nutrients on the 303(d) list. USEPA's letter states that SWRCB's "rationale for not listing the water for nutrients because there are no numeric water quality objectives in place is inconsistent with 40 CFR 130.7(b)(3), which requires states to evaluate potential violations of narrative standards in developing the Section 303(d) list."

The purpose of this letter is to clarify the administrative record regarding phosphorus in the Laguna de Santa Rosa. Subsequent to NCRWQCB's preliminary recommendation to place the Laguna de Santa Rosa on the 303(d) list for nutrients (including phosphorus), SWRCB staff was presented with substantial data and information showing that phosphorus should not be listed. The NCRWQCB Staff Report (November 2001) (Enclosure 1), on which NCRWQCB based its final recommendation, erred in referring to a USEPA criterion of 0.1 mg/L for total phosphorus. This total phosphorus concentration is in fact a "desired goal" for the prevention of plant nuisances in streams or other flowing waters not discharging directly into lakes or impoundments. The use of this phosphorus goal does not take into consideration the nutrient cycling taking place or site–specific conditions present in the Laguna de Santa Rosa. The response of water bodies to nutrient enrichment differs among water bodies, and an applicable nutrient objective is not available.

Nutrient enrichment can lead to increased algae growth that can in turn lead to wide fluctuations in dissolved oxygen. While the phosphorus goal is not applicable in this specific situation, it is clear that the Laguna de Santa Rosa does not meet standards for low dissolved oxygen. It is also clear that the nutrient concentrations are a probable cause of the low oxygen concentrations. In its Staff Report, NCRWQCB staff recommended that the nitrogen to phosphate ratios based on

recent Laguna measurements indicate that nitrogen may be the macronutrient controlling plant growth in the Laguna de Santa Rosa (Roth, 2001) (Enclosure 2).

SWRCB staff concluded that, while low dissolved oxygen levels continue to be a problem in the Laguna de Santa Rosa, it is unknown if phosphorus levels in the Laguna de Santa Rosa are the cause of these low dissolved oxygen measurements. The data and information suggest that nitrogen, not phosphorus, is the limiting nutrient for algal growth in the Laguna de Santa Rosa. Other factors in addition to algae may be affecting the dissolved oxygen concentrations in the Laguna de Santa Rosa, but the information collected from the Laguna de Santa Rosa to date does not support a conclusion that phosphorus is the limiting algal growth nutrient.

The data and information provided to SWRCB staff was also presented to NCRWQCB staff, and all staff agreed with the conclusions that: (1) no evidence exists to conclude that phosphorus is the limiting nutrient in the Laguna de Santa Rosa; (2) further assessment is needed to determine the relative contribution of limiting nutrients from various other factors contributing to low dissolved oxygen, and; (3) this information warrants placing the Laguna de Santa Rosa on the monitoring list for nutrients.

These conclusions by SWRCB and NCRWQCB staff resulted in SWRCB staff recommendation to place the Laguna de Santa Rosa on the monitoring list for nutrients.

Placement of nutrients on the monitoring list will allow NCRWQCB to better define and understand which pollutant contributes to or causes the low dissolved oxygen in the Laguna de Santa Rosa. New monitoring should be completed to identify the contribution of nutrients and their relationship to the low dissolved oxygen concentrations in the Laguna. Stakeholders have committed to new monitoring efforts and have begun to work in cooperation with NCRWQCB to develop a Total Maximum Daily Load (TMDL) analysis for dissolved oxygen. Nutrients will be addressed in the development of the dissolved oxygen TMDL. This work will provide a better understanding of nutrients and their influence in the Laguna de Santa Rosa.

Should you have any questions or need further assistance, please telephone Stan Martinson, Chief of the Division of Water Quality, SWRCB, at (916) 341-5458, or Craig J. Wilson, Chief of the TMDL Listing Unit, SWRCB, at (916) 341-5560.

Sincerely,

Thomas Howard

Celeste Cantú
Executive Director

Enclosures (2)

Enclosure 1

NORTH COAST REGION
WATER QUALITY CONTROL BOARD

303(d) LIST UPDATE RECOMMENDATIONS

November 16, 2001

California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

dissolved oxygen and ammonia concerns into a single stressor. The sedimentation problem was inadvertently not included as a stressor on the 303(d) List.

The Total Maximum Daily Load and Attainment Strategy for the Stemple Creek Watershed, approved by the North Coast Regional Water Board on December 11, 1997, support the intent of including sedimentation as a stressor. This document identifies excessive sediment as a stressor causing impairment, quantifies sediment yield from the watershed, associates sediment discharges with management activities in the watershed, quotes Basin Plan narrative standards for sediment, analyzes the sources of increased sediment yield in the watershed, includes numeric targets for sediment yield, sets a TMDL for sediment, allocates responsibility for reduced sediment yields, includes an implementation plan for reducing soil erosion, and proposes a monitoring plan that includes sediment. In other words, all of the elements of the Regional Water Board TMDL process are addressed.

To date, the Total Maximum Daily Load and Attainment Strategy for the Stemple Creek Watershed has not been fully implemented, and beneficial uses are still impaired by sediment. Therefore, staff recommends amending the current 303(d) List to include sediment as a stressor adversely affecting beneficial uses in the watershed, consistent with the original intent of the listing and with the existing approved TMDL for the watershed.

Santa Rosa Creek – Pathogens

Though the quantity of samples is sparse, microbiological monitoring in Santa Rosa Creek reveals high levels of indicator species. The California Department of Health Services recommends fresh water beach postings when fecal coliform, total coliform, Enterococcus, and/or E. coli levels exceed 400, 10,000, 61, or 235 MPN/100 mL for a single sample, respectively (California Department of Health Services, 2001 [Ref.#68]). Thirty percent of the samples taken in 1979 and 1980 (n=20) had fecal coliform concentrations exceeding the DHS recommended level (NCRWQCB, 1979-1980 [Ref.#66]). Monitoring results from June/July 2001 show high levels of total coliform, E. coli, and Enterococcus (City of Santa Rosa, 2001 [Ref.#64]). Seventy two percent of the samples (n=18) had total coliform and E. coli levels greater than the DHS recommended levels, and all of the samples had Enterococcus levels exceeding the DHS recommended level. A swimming advisory is currently in effect for Santa Rosa Creek. There is not enough data over a 30-day time period to make a determination of water quality objective exceedance for contact recreation (REC1), based on the Regional Water Board's Basin Plan objective for fecal coliform (NCRWQCB, 1994 [Ref.#91]). Based on these conditions, staff recommends adding Santa Rosa Creek to the 303(d) List for threat to public health due to pathogens.

Laguna de Santa Rosa – DO and Nutrients

The Laguna de Santa Rosa was added to the 303(d) List in 1990 for high levels of ammonia and low dissolved oxygen (DO) concentrations. A TMDL was completed for the Laguna for ammonia and dissolved oxygen in 1995. The TMDL concluded that high ammonia levels in the Laguna were the result of point and non-point source nitrogen inputs of various forms. Low dissolved oxygen concentrations were a result of inputs of

organic matter and nutrients which stimulate algal growth and subsequently cause depressed dissolved oxygen levels when the algae dies and decays.

The TMDL took the form of a Waste Reduction Strategy (WRS) which addressed the reduction of nitrogen loading from point and non-point sources. With the implementation of the WRS and operational improvements at the City of Santa Rosa Waste Water Treatment Plant as well as improvements in waste storage and disposal activities at local dairies, nitrogen inputs to the Laguna were significantly reduced. Following implementation of the WRS and the subsequent attainment of nitrogen-ammonia interim concentration goals, as stated in the WRS, the Laguna was removed from the 303(d) List for ammonia and dissolved oxygen in 1998, pursuant to a recommendation by US EPA.

However, dissolved oxygen levels in the Laguna continue to fall below the Regional Water Board's Basin Plan minimum DO objective of 7.0 mg/L and in many cases fluctuate significantly on a daily and seasonal basis. Recent monitoring of the Laguna by Regional Water Board staff showed dissolved oxygen concentrations range from a low of 0.2 to a high of 8.5 mg/L, with approximately 90 % of the records (n=1792) below 7.0 mg/L (NCRWQCB, August/September 2001 [Ref.#108]). Dissolved oxygen levels recorded in the Laguna by the City of Santa Rosa between January 1995 and July 1997 ranged from lows of less than 1.0 mg/L to highs of 20 mg/L (NCRWQCB, 1997 [Ref.#65]). An August 1997 review of the City of Santa Rosa's WRS monitoring results by the Regional Water Board found that "The goal for dissolved oxygen was not met at any of the four attainment points on the Laguna de Santa Rosa, with lowest dissolved oxygen levels occurring in the dry weather spring and summer months...with non-attainment of the WRS goal most often occurring between the months of April and September" (NCRWQCB, 1997 [Ref.#65]).

The report concludes that the Laguna generally meets the US EPA criterion for ammonia, but the US EPA phosphate criterion of 0.1mg/L total phosphorus is not consistently met (for streams or flowing waters not discharging into lakes or reservoirs). Based on available information, it appears that phosphorus may contribute to the dissolved oxygen fluctuations. The City of Santa Rosa began to monitor the Laguna for phosphorus in 1997 (Small, 2001 [Ref.#20]). Phosphorus levels recorded by the City have consistently exceeded the US EPA recommended 0.1 mg/L maximum criterion, including six sites that have exceeded this 100 percent of the time, with phosphorus concentrations as high as 3.0 mg/L. These six Laguna de Santa Rosa monitoring stations are located 100 feet upstream of Llano Road, at Llano Road, approximately 300 yards downstream of Llano Road, at Todd Road, upstream of the confluence with Colgan Creek, and upstream of the Laguna's confluence with Santa Rosa Creek.

The Regional Water Board also has conducted monitoring of the Laguna on a year-round basis since 1997 (NCRWQCB, 1997-2000 [Ref.#107]), and has recorded phosphorus levels above the US EPA criterion. Phosphorus levels recorded by the Regional Board at four monitoring stations located along the Laguna at Stony Point Road, Occidental Road, Guerneville Road, and Trenton-Healdsburg Road have consistently exceeded the US EPA criterion. The percentage of US EPA criterion exceedance at the four stations ranges from 89.6 percent of the samples collected at Guerneville Road to 100 percent of the samples collected at Occidental Road. Phosphorus concentrations were also recorded as high as 3.0 mg/liter at the Stony Point Road station.

Based on available information, staff has concluded that the dissolved oxygen objectives are not being met. However, the cause of the low dissolved oxygen levels is not certain. While phosphorus levels are below the US EPA criterion, nitrogen to phosphorus ratios,

based on recent Laguna measurements, indicate that nitrogen may be the macronutrient controlling plant growth in the Laguna (Roth, 2001 [Ref.#118]). Staff believes a TMDL addressing nutrients (both nitrogen and phosphorus) and dissolved oxygen is necessary for water quality objective attainment. Therefore, staff recommends adding Laguna de Santa Rosa to the 303(d) List for nutrients and low dissolved oxygen.

Russian River - Temperature

The Russian River is a coastal and interior watershed in Mendocino and Sonoma counties, with a watershed area of 1484 sq. miles. The most sensitive beneficial uses supported by the Russian River include uses associated with the cold water fishery and municipal and domestic supply. The Russian River provides habitat for coho salmon and steelhead trout, which are listed as a threatened species under the federal Endangered Species Act.

Recent (1997-2000) temperature data collected in the Russian River watershed (Slota, 2001 [Ref.#29], SCWA, 1997-1998 [Ref.#67]) indicate that high temperature levels may be a source of impairment of cold water fisheries in the watershed. For this review, data were available from 26 locations, with at least two years of record at 19 locations. MWAT values at 26 of 26 locations exceeded both the criteria of 14.8°C and 17°C for sub-lethal effects (10% reduced growth) on juvenile salmonids proposed by Sullivan and others (2000 [Ref. #102, with 22 locations exceeding the criteria for sub-lethal effects (20% reduced growth). Records indicate that maximum temperatures at 12 of the 26 locations were higher than 24°C, and may be lethal for coho.

Based on these results staff recommends adding the Russian River to the 303(d) List for temperature.

Russian River – Pathogens

Total and fecal coliform monitoring data for the Russian River was provided to TMDL Development Unit staff during the public review period for the Draft 303(d) List Update Recommendations. Staff assessed the available data from 1987 through August 2001 with respect to the Basin Plan's water quality objective for bacteria, which states "In waters designated for contact recreation, the median fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed 50/100 mL...". Seventy two percent of the fecal coliform sample sets collected at Healdsburg Memorial Beach between 1986 and 1994 exceeded the objective (NCRWQCB, 2001 [Ref.#111]). For the years 1995 through August 2001, 6%, 45%, 64%, 86%, 100%, 56%, and 100% of the 30-day medians for fecal coliform exceeded the objective, respectively (NCRWQCB, 2001 [Ref.#112]). Seventy five percent of the fecal coliform sample sets collected at Monte Rio beach between 1992 and 1994 exceeded the objective (NCRWQCB, 2001 [Ref.#111]). For the years 1996 through August 2001, 73%, 45%, 0%, 0%, 0%, and 88% of the 30-day medians for fecal coliform exceeded the objective, respectively (NCRWQCB, 2001 [Ref.#112]). All of the samples were collected during the summer months. Both Healdsburg Memorial Beach and Monte Rio Beach are popular swimming areas. Fecal coliform is an indicator organism. Based on this data, staff recommends adding the following reaches of the Russian River to the 303(d) List for pathogens: (1) the Monte Rio area from the confluence of Dutch Bill Creek to the

2002 303(d) List Update
Reference # 118

MEMORANDUM

Merritt Smith Consulting
Environmental Science and Communication

TO: Ed Brauner, Deputy City Manager
Miles Ferris, Utilities Director

FROM: James Roth, Ph.D.
Dave Smith, Ph.D.

DATE: 5 October 2001

SUBJECT: Comments on Proposed 303(d) listing for Laguna de Santa Rosa

The 1990 303(d) listing of the Laguna for ammonia and dissolved oxygen led to a TMDL in 1995 which took the form of a wasteload reduction strategy (WRS) addressed at reduction of nitrogen loading from point and non-point sources. Ammonia-nitrogen interim concentration goals were attained, and the Laguna was removed from the 303(d) list in 1998. Dissolved oxygen (DO) goals continue to fall below the Basin Plan minimum objective of 7 mg/L, and this has prompted the RWQCB staff to propose listing the Laguna for dissolved oxygen and phosphorus. This memorandum provides a summary of a National Academy of Sciences report that recommends changes to the 303(d) listing process that should be followed by RWQCB, and an analysis of data that indicates that the proposed listing of the Laguna for DO and phosphorus is not appropriate.

Summary Of Comments

The National Academy of Sciences has provided recommendations for improving the 303(d) listing process. RWQCB's guidelines for listing were developed prior to the recommendations and have not been updated to reflect the recommendations. Following the recommendations lead to the conclusion that the proposed listing of the Laguna for DO and phosphorus is not appropriate. Examination of the RWQCB's TMDL Monitoring Data shows that DO at the four compliance monitoring stations in the Laguna was at a minimum during 1996 through 1998, and has been improving at all stations since 1998. A lag period between the reduction of nutrient inputs and the reversal of eutrophication is expected. Accordingly, including DO on the watch list rather than the 303(d) list is recommended. The 303(d) listing of the Laguna for phosphorus is not justified because the Board's recent TMDL Monitoring Data continue to support the conclusion that nitrogen, and not phosphorus, limits the growth of plants in Laguna waters.

NRC Recommendations

The National Research Council, the principal operating agency of the National Academy of Sciences, has recently completed a 109-page assessment of the 303d listing and TMDL

approach to water quality management (NRC 2001). Their report outlines recommended changes to the program. The NRC report recommends broad changes to the 303d listing and TMDL process, including the criteria for listing and delisting. One of the recommended changes is that RWQCB should emphasize attainment of designated uses rather than achievement of numerical water quality goals (p.5). Responding to testimony that "many waterbodies have been listed based on limited or completely absent data and poorly conceived analytical techniques for data evaluation," (p.20) the report "reviews the listing process and makes recommendations that will improve the reliability of the listing decision." RWQCB's 303(d) listing approach should be evaluated against the recommendations to identify areas of improvement.

One of the recommendations that has not been implemented by RWQCB is that "before a waterbody is placed on the action (303d) list it is suggested that states conduct a review of the appropriateness of the water quality standard" (p. 90) Recommended is a use attainability analysis (UAA), which "determines if impairment is caused by natural contaminants, nonremovable physical conditions, legacy pollutants, or natural conditions." (p. 92). The current Basin Plan minimum of 7 mg/L DO has not been subjected to such analysis. In fact, the City of Santa Rosa requested in writing on May 20, 1998, that RWQCB conduct just such an evaluation. RWQCB should conduct such an evaluation prior to listing of the Laguna for dissolved oxygen.

DATA ANALYSIS

Dissolved Oxygen

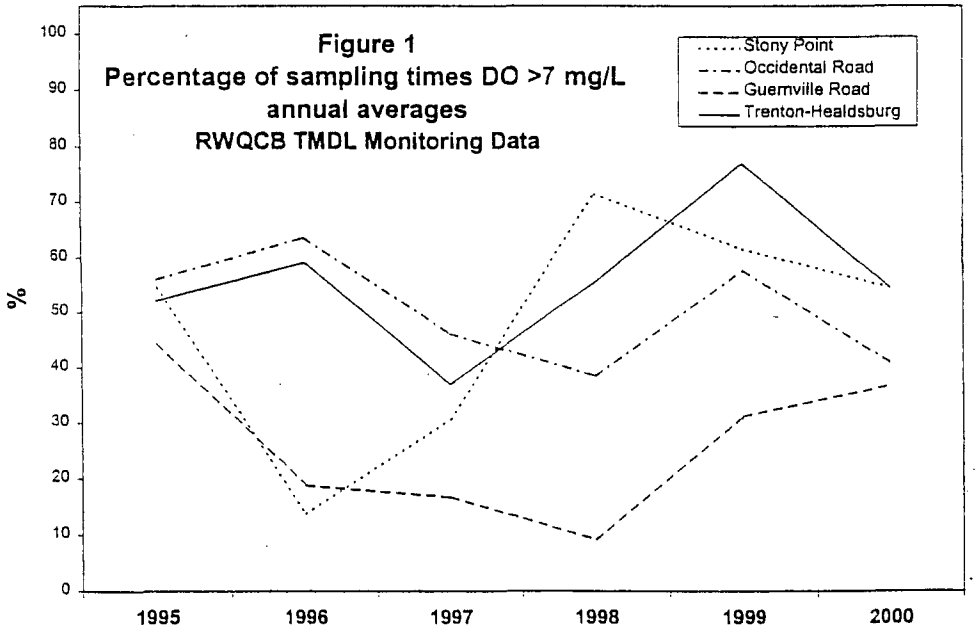
The RWQCB's rationale for recommending adding the Laguna to the 303(d) list for DO is that although nitrogen loading goals have been met since about 1998, Laguna DO objectives are not met. Reference is made to recent data collected in August/September 2001 which indicate that Laguna DO levels are less than the Basin Plan objective of 7 mg/L 90 percent of the time. The implication is given that DO levels in the Laguna have worsened in the most recent period. No reference is made to recent DO data from the RWQCB's own TMDL Monitoring program, although phosphorus data from that program are discussed.

- *Are Laguna DO levels worsening since nitrogen loading has been reduced?*

  The RWQCB's Laguna de Santa Rosa TMDL monitoring program (Reference # 107 in 303(d) List Update Recommendations) began in January 1995, and continued until November 2000. Four compliance monitoring stations were each visited every two weeks throughout the year. One purpose of this program was to determine whether reduced nitrogen loading would result in improvements in Laguna DO levels. The 303(d) List Update Recommendations refer to data collected between 1995 and 1997 and conclude that DO compliance is not being

met. It is appropriate to compare DO data for the whole study period (1995-2000) in order to decide whether DO is worsening. Nitrate loading reductions achieved goals by 1998, but it is to be expected that reductions in Laguna eutrophication might not be immediate. A lag period, perhaps of several years might precede measurable DO improvements.

Based on the TMDL monitoring data, the percentage of times over the year that Laguna DO has attained the Basin Plan goal of 7 mg/L at each station (Figure 1) shows a distinct pattern during the last 6 years. In 1995 DO was above 7 mg/L on about half of the sample dates at all 4 stations. Attainment of the 7 mg/L goal declined at all stations in one or more of the next 3 years, in some cases strikingly (to 14 percent of dates at Stony Point Road in 1996, and to 9 percent of dates in 1998 at Guerneville Road). However, 3 of the 4 stations have increased in the



frequency of attainment since 1998. While none of the stations have achieved the goal of 100 percent attainment, it is encouraging that the Laguna DO is improving (percentages for 2000 are slightly underestimated because no samples were collected after mid-November, so averages did not include as many winter dates when compliance rate is high). There is thus no evidence from these data to support RWQCB staff's implication that Laguna DO is worsening.

Another perspective on recent Laguna DO, based on the same data set is the percentage of sample dates each year when the DO is over 50 percent saturation (Figure 2). Because oxygen is less soluble at higher temperature and the Laguna is a naturally warm waterway in summer, percent saturation provides is more relevant to the suitability of the Laguna as a habitat for native fish and

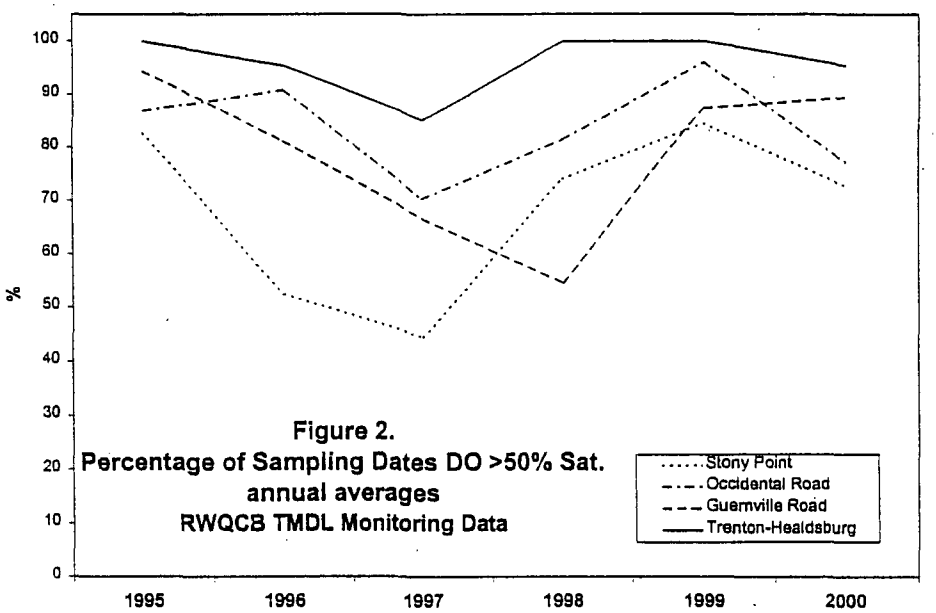


Figure 2.
Percentage of Sampling Dates DO >50% Sat.
annual averages
RWQCB TMDL Monitoring Data

invertebrates than is the absolute concentration of dissolved oxygen. Percent saturation has also improved at all stations since 1998, and percent saturation at all stations was above 50% on at least 70 percent of the sample dates in 2000. (Again the 2000 percentages are probably underestimated due to fewer winter sampling dates.) A lag period between the reduction of nutrient inputs and the reversal of eutrophication is expected, and for this reason including the Laguna on the Watch List for DO, rather than the 303(d) list would be more appropriate than formally listing it.

Another important implication of the inverse relationship between temperature and oxygen solubility is that, due to natural conditions, temperature is sufficiently high that the 7 mg/L standard is frequently unattainable. When temperature is greater than 22 C, oxygen saturation is less than 7 mg/L (the Basin Plan standard). This fact should be considered by RWQCB in their evaluation of 303(d) listing of the Laguna for dissolved oxygen (and when evaluating if the standard of 7 mg/L is appropriate for the Laguna).

- *Do recent data collected in August/September 2001 demonstrate that Laguna DO is worsening?*

  The Regional Water Board's DO data from August/September 2001 (Reference # 108 in 303(d) List Update Recommendations), monitoring conducted under contract by Sonoma County Water Agency) were collected with continuously recording instruments installed near the 4 attainment monitoring stations for periods 2 to 3 days on two occasions in August/September 2001. That 90 percent of the records were below 7 mg/L shows that low DO episodes at certain times and places may be sustained over extended periods. The 303(d) List Update Recommendations assert that this supports the need for 303(d) listing. However, there are several methodological and other differences between these data and data from previous monitoring. It is therefore impossible to determine whether the results represent recent changes in the Laguna DO regime. It is not unusual for DO concentrations in eutrophic streams to exhibit day-night fluctuations (diel DO sag), since photosynthetic inputs exceed DO consumption during daylight, whereas respiratory losses dominate at night.

  The recording instruments were deployed on the stream bottom under water depths ranging from 0.5 to 1.0 meter. The sensors were thus located within a few centimeters of the sediments (Jeff Church, RWQCB, pers. com.) whereas the grab samples in the TMDL monitoring series were collected at the surface. Instruments were placed at concealed sites up to 100 yards of the bridge crossings where the bimonthly samples were collected. Individual records in a continuous series logged every 15 minutes are not statistically independent (consecutive observations are autocorrelated), so the number of records (1792) does not convey the statistical power implied by the expression "n=1792" as used in the Draft Update.

Phosphorus

The RWQCB's rationale for recommending adding the Laguna to the 303(d) list for phosphorus is that phosphorus levels in the Laguna exceed the US EPA criterion of 0.1 mg/L Total P, and since DO levels appear to be worsening despite nitrogen loading reductions, that phosphorus, not nitrogen, must be limiting algal growth in the Laguna.

- *Do Laguna phosphorus concentrations exceed any federal or State water quality standards?*

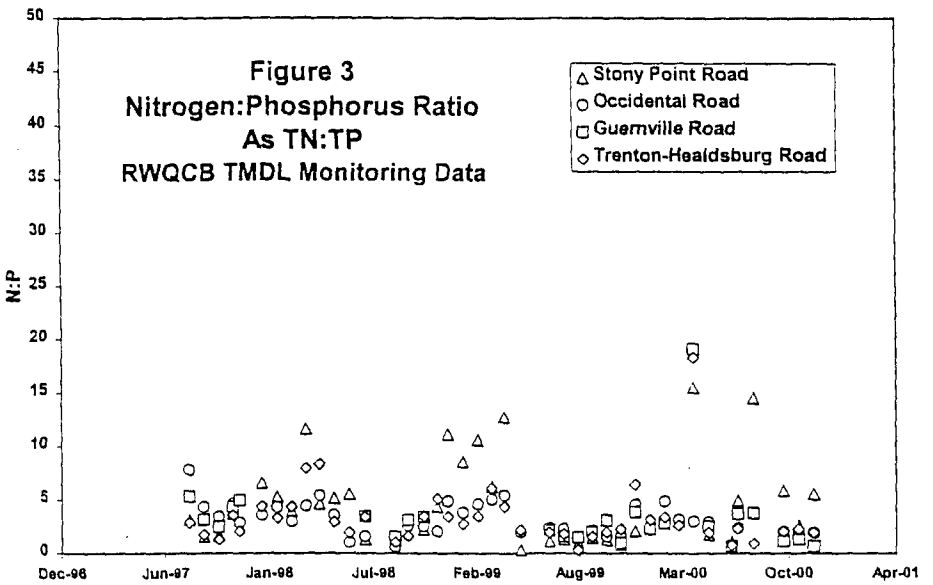
  The Basin Plan issued by the RWQCB does not contain any numerical phosphorus standards. The US EPA has not promulgated any numerical phosphorus standards that address the prevention of eutrophication as described in EPA (2000):

EPA is publishing technical guidance which presents EPA's method for setting nutrient water quality criteria for lakes and reservoirs. The EPA has not previously issued guidance for developing ecoregional nutrient criteria. In addition, current criteria for nutrients do not specifically address the prevention of eutrophication. In 1976, in EPA's publication entitled Quality Criteria for Water (also known as the Red Book), EPA presented ambient water quality criteria for nitrates, nitrites and phosphorus. The criterion for nitrate nitrogen was 10 mg/L for the protection of domestic water supplies. The phosphorus criterion was 0.10 ug/L elemental phosphorus for the protection of marine and estuarine waters. This criterion was based on a conservative estimate to protect against the toxic effects of the bioconcentration of elemental phosphorus to estuarine and marine organisms, and not on the potential to cause eutrophication.

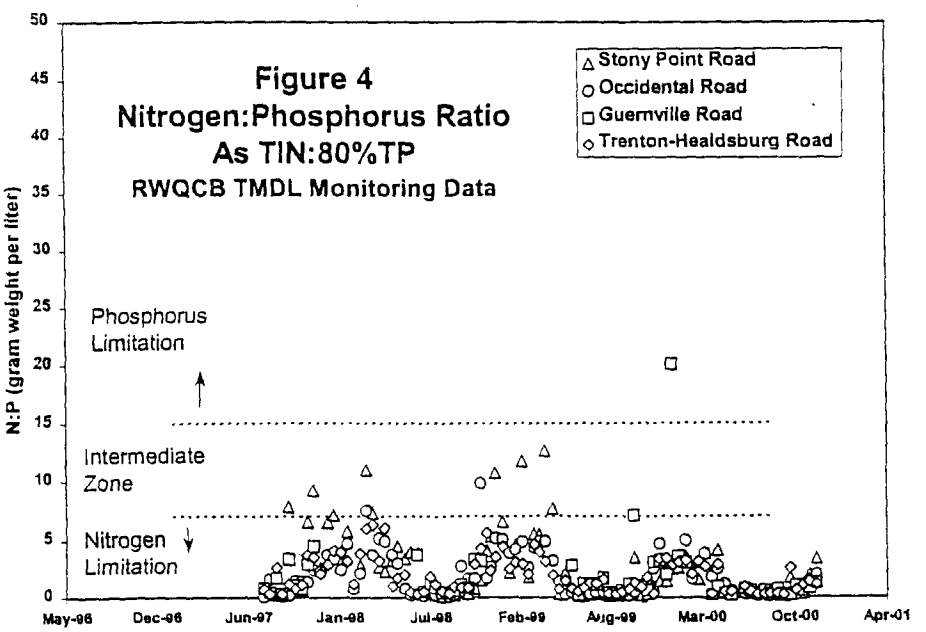
- *Do recent data support the conclusion that algal growth in Laguna waters is phosphorus-limited?*

The 1995 TMDL (RWQCB 1995) identified ammonia and total nitrogen as limiting nutrients in the Laguna. This conclusion was based on a variety of data, including Algal Growth Potential (AGP) tests and analysis of nutrient ratios, collected over several years by several investigators. Nitrogen-to-phosphorus ratios based on recent Laguna measurements continue to indicate that nitrogen is the macronutrient controlling plant growth in the Laguna.

The simple ratio of total nitrogen to total phosphorus (Figure 3) suggests that Laguna waters are nitrogen-limited, but this ratio may not accurately predict the relative importance of each nutrient, because several forms of each element may not be available to plants for growth. Lee et al. (1980) found that for a wide variety of aquatic habitats, a good estimate of the bioavailable phosphorus is given by the sum of the dissolved orthophosphate and 0.2 x the particulate phosphorus in a water sample. The recent phosphorus data collected in the RWQCB's TMDL monitoring series evaluated total phosphorus only, which includes both particulate and dissolved forms. However, both dissolved and total P were measured at Laguna stations by the City of Santa Rosa in their Laguna Monitoring program. Two of their stations (Occidental Road and Stony Point Road) correspond to stations also sampled in the 1995-2000 RWQCB TMDL series. The dissolved orthophosphate averaged 76% of total P in 82 pairs of



determinations made on water from the two stations at all seasons during the years 1993-1999. Using this estimate, the sum of dissolved P and 0.2 x particulate P is estimated by 0.808 x Total P (i.e., 0.76+(0.2x0.24). Accordingly, the N-to-P ratio, calculated as Total Inorganic Nitrogen (TIN) divided by 0.8x Total P (Figure 4), should realistically represent the bioavailable forms of both elements. This figure clearly shows that nitrogen continues to be the macronutrient controlling algal growth in the Laguna. The degree of N-limitation appears to by increasing, not surprising since N inputs have decreased.



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JUN – 5 2003

Ms. Celeste Cantú
Executive Director
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Dear Ms. Cantú:

Thank you for your efforts to develop the Section 303(d) water body list for 2002. I commend the State and Regional Boards for their diligent efforts to improve the water body assessment process that supported the 2002 listing decisions, and I am pleased that the State and EPA agreed on more than 99% of all assessment determinations. We received California's 2002 Section 303(d) submittal on March 3, 2003 and supporting documentation and information in several followup submittals. We carefully reviewed the State's listing decisions, assessment methodology, and supporting data and information. Based on this review, we have determined that California's 2002 list of 679 water quality limited segments still requiring TMDLs partially meets the requirements of Section 303(d) of the Clean Water and EPA's implementing regulations.

By this order, EPA hereby partially approves and partially disapproves California's 2002 Section 303(d) list. EPA approves the State's decision to list the 679 waters and associated pollutants identified at Tab 1 of the California listing report along with the State's priority rankings for these waters and pollutants. EPA disapproves the State's decision not to list 5 additional water bodies, and additional pollutants for 15 waters already listed by the State, as we find these waters and pollutants meet the federal requirements for listing under Section 303(d). The statutory and regulatory requirements, and a summary of our review of California's compliance with each requirement, are described in Enclosure 1.

We are identifying for inclusion on California's Section 303(d) list 5 waters and associated pollutants, and additional pollutants for 15 waters already listed by California. The specific waters and pollutants added, are identified in Table 1, which is enclosed with this letter. We will now open a public comment period to receive comments concerning our decision to add waters and pollutants to the State's Section 303(d) list.

EPA identified three situations in which waters and pollutants do not attain water quality standards but were not listed on the Section 303(d) list by the State:

1. Available data indicate that 14 waters substantially exceed the State's numeric water quality standards for dissolved oxygen, boron, and other pollutants.
2. Available fish tissue data for 3 waters exceed widely accepted tissue screening values used to assess potential water quality impairment and exceedances of narrative water quality standards.
3. The implementation programs relied upon by the State as the basis for removing 3 water body-pollutant combinations from the Section 303(d) list are not sufficiently likely to result in attainment of water quality standards for certain pollutants. As a result, EPA concludes that these waters and pollutants meet the listing requirements.

EPA's partial approval and partial disapproval of California's Section 303(d) list does not extend to any water bodies located within tribal lands, as defined in 18 U.S.C. Section 1151. EPA's decision to identify additional waters and pollutants for inclusion on the Section 303(d) list also does not apply to any waters located within tribal lands.

The public participation process sponsored by the State and Regional Boards included solicitations of public comment through newspaper advertisements, mailing lists, and several public hearings, and preparation of a responsiveness summary explaining how the State considered public comment in the final listing decisions. We find that the State's public participation activities were consistent with federal requirements.

If you have questions concerning this decision or on any of the supporting analysis, please call me at (415) 972-3572 or call David Smith at (415) 972-3416. We would be pleased to brief you and Board members, if you wish, on this matter.

Sincerely yours,

Alexis Strauss
Alexis Strauss 5 June 2003
Associate Regional Administrator

Enclosures

cc: SWRCB Members

Table 1: Waters added to 303(d) list for California

Description of Table Columns:
"Water Body" column identifies the water bodies on the 303(d) list.
"Pollutants" column identifies the specific pollutants for which the water bodies were found to exceed water quality standards.
"Basis for Listing" column identifies the basis for individual listing decisions.
"Priority Ranking" column indicates the priority ranking for TMDL development associated with an individual listing decision (H = High; M = Medium; L = Low priority)

Water Body (Regional Board)	Pollutants	EPA basis for listing	Water already listed by State for other pollutants?	Priority Ranking
Humboldt Bay (1)	PCBs	fish tissue levels exceed maximum tissue residue levels in 80% of samples (n=5)	N	L
Laguna de Santa Rosa (1)	total nitrogen and total phosphorus	TN levels exceed EPA recommended criteria values in 93% of samples (n=323); TP levels exceed EPA recommended criteria values in 88% of samples (n=324)	Y	L
Lake Merced (2)	dissolved oxygen and pH	DO and pH levels exceed numeric objectives in 46-83% of samples (n=14)	N	L
Lake Merritt (2)	dissolved oxygen	DO levels exceed numeric objectives in 24% of samples (n=126); State provided inadequate basis for delisting from 1998 list	Y	L
San Francisco Bay segments: Sacramento/San Joaquin Delta Lower San Francisco Bay San Pablo Bay Suisun Bay (2)	nickel	Currently applicable basin plan objective for nickel exceeded 102 times since 1993	Y	L
Chumash Creek (3)	dissolved oxygen	DO levels exceed numeric objectives in 15% of samples (n=230)	Y	L
Llagas Creek (3)	dissolved oxygen	DO levels exceed numeric objectives in 18% of samples (n=90)	Y	L

Los Osos Creek (3)	dissolved oxygen	DO levels exceed numeric objectives in 18% of samples (n=251)	Y	L
Orcutt Solomon Creek (3)	boron	Boron levels exceed numeric objectives in 15% of samples (n=34)	Y	L
San Antonio Creek (3)	boron	Boron levels exceed numeric objectives in 67% of samples (n=6)	Y	L
Calleguas Creek Reach 4 (4)	boron, sulfate, total dissolved solids	Pollutant levels exceed numeric beneficial use protection guidelines [boron, 85% of samples (n=13); sulfate, 93% of samples, n=15; TDS, 80% of samples, n=15]	Y	M
San Gabriel River Reach 1 San Gabriel River Reach 3 Coyote Creek (4)	toxicity	Data indicate very high current toxicity levels; submittal has not demonstrated that pending ammonia controls will result in attainment of toxicity water quality standards	Reach 1- Y Reach 3- N Coyote- Y	M
Bolsa Chica (8)	copper and nickel	Pollutant levels exceed numeric objectives for copper (100%, n=4) and nickel (100%, n=4)	N	L
Anaheim Bay (8)	copper, nickel, dieldrin, and PCBs	Pollutant levels exceed numeric objectives for copper (100%, n=4) and nickel (100%, n=4). Dieldrin and PCB levels exceeded maximum tissue residue levels in 100% of available samples (n=2).	N	L
Huntington Harbour (8)	copper, nickel, dieldrin, and PCBs	Pollutant levels exceed numeric objectives for copper (100%, n=4) and nickel (75%, n=4). Dieldrin and PCB levels exceeded maximum tissue residue levels in 100% of available samples (n=4).	Y	L

Review of California's 2002 Section 303(d) Water body List

Enclosure to letter from Alexis Strauss, EPA Region 9 to Celeste Cantú, State Water Resources Control Board

Date of Transmittal Letter From State: February 28, 2003
Date of Receipt by EPA: March 3, 2003
Dates of Supplemental Transmittals From State: March 10, 2003, March 11, 2003, April 10, 2003, April 14, 2003 and April 22, 2003

Purpose

The purpose of this review document is to describe the rationale for EPA's partial approval and partial disapproval of California's 2002 Section 303(d) water quality limited waters list. 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.

Statutory and Regulatory Background

Identification of WQLSs 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).

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

Priority Ranking

EPA regulations also codify and interpret the requirement in Section 303(d)(1)(A) of the Act that States establish a priority ranking for listed waters. The regulations at 40 CFR 130.7(b)(4) require States to prioritize waters on their Section 303(d) lists for TMDL development, and also to identify those WQLSs targeted for TMDL development in the next two years. In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. See Section 303(d)(1)(A). As long as these factors are taken into account, the Act provides that States establish priorities. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and State or national policies and priorities. See 57 FR 33040, 33045 (July 24, 1992), and EPA 1991.

Analysis of California's Submission

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

EPA has reviewed the State's submission, and has concluded that the State developed its Section 303(d) list in partial compliance with Section 303(d) of the Act and 40 CFR 130.7. As California's submission does not include all waters that meet Section 303(d) listing requirements, its list is being partially approved and partially disapproved, and the additional waters and pollutants that meet the listing requirements are being added to the

State's 2002 list. 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 1998 Section 303(d) list as its starting point for its 2002 list revision. The State based its 2002 Section 303(d) submittal on its analysis of readily available data and information to determine whether additions to or deletions from the 1998 list were necessary (listing report, pp. 2-3). The State determined that waters listed in 1998 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, (2) errors in the analysis supporting the 1998 listing were identified, (3) other enforceable control requirements would result in attainment of water quality standards, or (4) TMDLs had been completed by the State for a water-pollutant combination. As a result, many waters were retained on the 2002 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.

Assembly of Data and Information

The State devoted considerable effort to assembling new data and information sources for the 2002 list revision (see listing report, pp. 3-15). 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 also solicited data and information from the public beginning in March 2001 and ending in June 2002, and considered the voluminous material submitted by the public in response to the solicitation as part of the listing assessment. The solicitation was mailed to an extensive mailing list, advertised in newspapers, and posted on State and Regional Board web sites. The State considered some data and information submitted by the public after the June 2002 deadline, but in most cases limited its analysis to data and information obtained by June 2002. EPA finds that it was generally reasonable for the State to limit its analysis to 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. EPA concludes it was reasonable for the State to provide a 6-month period to assemble the listing proposal following the close of data and information solicitation period. Data and information sources assembled and considered by the State are specifically identified in each of the Regional Board staff reports, as well as the water body fact sheets and reference lists included in Volume II of the list submission.

The State generally focused on data that became available after 1997 because the 1998 listing analysis focused on data and information that were available before 1997. In some cases, the State considered older data as part of its 2002 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 make its assessment based on water quality data generally collected during this timeframe because the more recent ambient water quality data are more likely to be representative and indicative of current water quality conditions. EPA notes, however, that it may be reasonable

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 several hundred water body fact sheets for waters and pollutants for which new data and information were assembled for the 2002 list review. These fact sheets summarized the applicable standards, the available data and information, the basis for the State's assessment of the available data and information, and the listing recommendation. These fact sheets provided a good summary of the listing assessment in most cases. The State's responses to comments concerning several of these assessments provide supplemental information explaining the basis for the State's conclusions. In a few cases, EPA requested and received additional explanations of State listing decisions and/or the underlying data summarized in the fact sheets. EPA reviewed these data as necessary to ensure the basis for each water body assessment was sufficiently clear.

The State's listing decisions are consistent with the conclusions of the most recent Section 305(b) report submitted in 2000 because the State conducted one integrated analysis to support preparation of the Section 305(b) Report and Section 303(d) List. The 2002 Section 305(b) report had not been completed at the time of the final Section 303(d) listing submittal. The State has not updated its Section 319 assessment in several years, and EPA found in its review of the 1998 Section 303(d) list that that listing decision was consistent with or had superseded the most recent Section 319 assessment. As the State used the 1998 list as the basis for the 2002 list, the Section 303(d) listing decisions remain consistent with, or reasonably supersede, the assessment conclusions of the now-outdated Section 319 assessment.

Listing Methodology

The list submittal summarizes the listing methodology used by California to update the 2002 list. The State did not develop and apply a standardized listing methodology that specified firm rules for determining whether waters should be listed under section 303(d) or placed on the State's monitoring list or enforceable programs list. Instead, the State applied a weight-of-evidence approach through which the State assessed the unique data and information profile available for each water-pollutant combination in comparison with applicable water quality standards. This approach enabled the State to consider how different lines of evidence and levels of data quantity and quality combine to support an assessment of whether different waters exceed water quality standards. This approach also:

- requires more detailed and laborious documentation (on a water-by-water basis) than might be needed if a more standardized methodology were applied,
- requires more attention to ensure there are valid reasons for making different assessment determinations for different waters in similar factual situations, and
- was more difficult for EPA to review and analyze.

Although the State did not apply strict decision rules in making 2002 listing decisions, it applied several general assessment factors to help ensure consistency in listing assessments. These factors are discussed in detail in the listing report (listing report, pp. 4-15) and include:

waterbody identification information,
pollutant or stressor type,
applicable water quality standards/beneficial use information,
data quality,
linkage between measurements and applicable standards,
utility of available measurements for judging standards attainment,
availability of data and information,
considerations in analysing 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), and
the availability of an alternative enforceable program to address the impairment.

Although the state did not require minimum sample sizes in order to assess water quality conditions, the State was more likely to list waters with larger data sets and in cases where data quality was clearly documented. In general, more data and higher exceedance frequencies were expected before listing conventional pollutants on the Section 303(d) list. Less data and lower exceedance frequencies were expected to support listings of toxic pollutants. Particularly in the case of toxic pollutants, the State carefully considered, and was willing to list based on, contaminated sediment and fish tissue data. The State applied generally accepted screening guidelines developed by agencies in California or elsewhere in considering these other data types and evaluating narrative standards exceedances. These approaches are generally consistent with EPA's technical assessment guidance documents (EPA 1997 and EPA 2001).

EPA concludes that the State's weight-of-evidence approach, backed by the preparation of detailed fact sheets and responses to comments, is consistent with the federal requirement that the State specify its listing methodologies as part of the listing decision.

EPA carefully reviewed the State's individual water body assessments for consistency with federal listing requirements. EPA found that the State's assessments were consistent with federal requirements and State water quality standards in more than 99% of the individual water body cases. The data and information available for most waters clearly supported conclusions that water quality standards were or were not exceeded. There were several dozen waters for which it was less clear that the available evidence supported conclusions that water quality standards were not exceeded. EPA identified most of these waters in its comments to the State during the public comment period and requested that the State clarify the data and information available for these waters and its rationale for not listing them. EPA also identified a few waters based on its review of the final list submission and responsiveness summary for which there was some evidence of potential standards exceedances, but the State had not provided a clear rationale for not listing them. EPA requested that the State also clarify the data and information available for these waters and its rationale for not listing them.

The State did a good job of responding to these requests. Based on its reviews of the supplemental data and information provided by the State and its reviews of information in the State's listing record for certain waters, EPA concluded that the vast majority of State listing

decisions were consistent with federal listing requirements. In a few cases, discussed in more detail below, EPA concluded that the State had not provided a reasonable explanation for not listing these waters and that the available data and information instead supported a conclusion that these waters meet federal listing requirements.

EPA identified several concerns about California's proposed listing decisions during the list development process. EPA worked closely with the State during the listing process and was able to resolve most of these issues. As a result, EPA is able to approve all of California's decisions to list waters and pollutants, and almost all its decisions not to list other waters and pollutants. The attached "Summary of Resolution of Issues Raised by EPA Concerning California's Draft 2002 303(d) List" discusses the issues raised by EPA and the eventual resolution of these issues. The basis for EPA's decisions to add several waters is discussed in greater detail in the following section.

In summary, EPA has reviewed California's description of the data and information it considered, its methodology for identifying waters, and the State's responsive summary. EPA concludes that the State's decisions to list the waters and pollutants identified in Table 27 of its listing submittal are consistent with federal listing requirements. EPA's decision to approve these listings does not mean that EPA concurs with or is taking any action with respect to the State's listing methodology. EPA considered the State methodology in its decision to approve the waters and pollutants listed by the State. However, EPA also reviewed the data and information provided by the State as part of its listing submittal to determine whether the State listed all waters or pollutants that do not attain State water quality standards and meet federal listing requirements. EPA concludes that the State's decision not to list several waters and pollutants is inconsistent with federal listing requirements. As discussed below, the available data and information are sufficient to support a conclusion that these waters are water quality limited and need to be listed pursuant to Section 303(d).

The State properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with Section 303(d) and EPA guidance. Section 303(d) lists are to include all water quality limited segments (WQLSs) still needing TMDLs, regardless of whether the source of the impairment is a point and/or nonpoint source. EPA's long-standing interpretation is that Section 303(d) applies to waters impacted by point and/or nonpoint sources. In *Pronsolino v. Marcus*, the District Court for the Northern District of California held that section 303(d) of the Clean Water Act (CWA) authorizes EPA to identify and establish total maximum daily loads (TMDLs) for waters impaired by nonpoint sources. *Pronsolino et al. v. Marcus et al.*, 91 F.Supp.2d 1337, 1347 (N.D.Ca. 2000), aff'd, *Pronsolino v. Nastri*, 291 F.3d 1123 (9th Cir 2002). See also EPA's 1991 Guidance and National Clarifying Guidance for 1998 Section 303(d) Lists, Aug. 27, 1997.

Rationale for Adding 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/or pollutants for currently listed water bodies, and (2) identify these water bodies for inclusion on the final 2002 Section 303(d) list with associated priority rankings. EPA analyzed the State's water body assessments and

supporting rationales to determined whether the State's decisions not to list the waters were consistent with federal listing requirements and the provisions of state water quality standards. EPA generally applied the listing criteria contained in EPA's water quality assessment guidance documents in determining whether waters are water quality limited (EPA, 1997 and EPA, 2001). These guidance documents generally provide that waters should be listed due to potential aquatic life use impairments in cases where toxic pollutant standards are exceeded in 2 or more samples in a three-year period, and conventional pollutant standards are exceeded in more than 10% of available samples. Where necessary, EPA has interpreted narrative standards to evaluate pollutants for which numeric standards are not in place. For fish tissue analysis, EPA has considered the same screening guidelines applied by the State (e.g., maximum tissue residue levels (MTRLs) for fish). For nutrients, EPA reviewed available guidance concerning protective nutrient levels, as discussed under the individual water body discussions below.

EPA will solicit public comments on these additions to California's list, and, following consideration of any comments received, will transmit the final list to California for incorporation in the State's water quality management plan. The basis for adding individual waters and pollutants and the basis for the priority rankings are discussed for each water and pollutant to be added to the list.

Humboldt Bay PCBs (RB 1)

The North Coast Basin Plan contains a narrative water quality standard that prohibits pollutants at levels toxic to aquatic life or human health (North Coast RWQCB, 1993, pp. 3-4.00). The State used maximum tissue residue levels (MTRLs) as a screening method to evaluate whether pollutant levels in fish exceeded safe levels, and EPA concurs that MTRLs are appropriately used for this purpose. EPA's review of available fish tissue data for Humboldt Bay found that MTRLs for PCBs were exceeded in 4 out of 5 samples. Available data and MTRLs were not divided by individual PCB compound, therefore this analysis focuses on PCBs as a group. We note the State listing methodology suggests that "for measurements that integrate environmental conditions (like measurements of contaminants in fish tissue) at least two samples were usually sufficient (to support an assessment)" (listing report, p. 7). EPA concludes that these data provide a sufficient basis for concluding that the narrative water quality standard for toxicity contained in the North Coast Region Basin Plan is exceeded.1 The State provided an insufficient rationale to support its conclusion that inadequate data were available to support a listing. EPA is establishing a low priority ranking for this listing based on the judgement that there is no direct evidence of beneficial use impacts in the record at this time and additional monitoring and assessment are appropriate to verify this listing before developing a TMDL.

Laguna de Santa Rosa Total Nitrogen and Total Phosphorus (RB1)

EPA is identifying Laguna de Santa Rosa for inclusion on the 303(d) list for total nitrogen and total phosphorus based on the very high nutrient levels observed in available samples. EPA concludes that the nitrogen and phosphorus levels found in the Laguna far

1 California's Basin Plans refer to narrative and numeric water quality standards as "objectives'

exceed the levels associated with excessive aquatic growths that can adversely affect beneficial uses, and that the Basin Plan narrative water quality standard for biostimulatory substances is violated (see North Coast RWQCB, 1993, p. 3-3.00). EPA also notes that the high nutrient levels likely contribute to the very low DO levels observed by the State, which resulted in the State's listing of the Laguna for DO. The State's rationale for not listing the water for nutrients because there are no numeric water quality objectives in place is inconsistent with the requirement of 40 CFR 130.7(b)(3), which requires States to evaluate potential violations of narrative standards in developing the Section 303(d) list.

EPA understands that it is difficult to determine the exact nutrient levels that would be protective of the receiving water. In the absence of a numeric water quality standard in the North Coast Basin Plan, EPA judged that it would be reasonable to apply (for screening purposes) the numeric total nitrogen objective of 1.0 mg/L found in the San Diego Regional Basin Plan, which is generally consistent with protective nitrogen levels identified in the literature and applied in recent nutrient TMDLs for coastal streams in California (e.g., Dodds and Welch, 2000, EPA 2003). Our review found that nitrogen levels in the Laguna exceeded the 1.0 mg/L screening value in 93% of available samples, usually by a wide margin (n=323).

For total phosphorus, EPA applied for screening purposes the 0.1 mg/L value applied by the Regional Board staff and used in recent phosphorus TMDLs for coastal California Streams (EPA, 2003). The Regional Board staff's analysis contained in its staff report found that phosphorous levels exceeded the 0.1 mg/L screening value in 88% of samples, usually by a very wide margin (n=324). We also note that Regional Board staff recommended listing the Laguna for nitrogen and phosphorous, and found no analysis in the State Board decision to refute the Regional Board staff assessment.

We note the Laguna is also listed for DO and believe it will be feasible to develop TMDLs that simultaneously address the DO, nitrogen, and phosphorous listings. As the DO TMDL was given a low priority ranking by the State, we are setting a low priority for the nitrogen and phosphorus TMDLs as well.

Lake Merced Dissolved Oxygen and pH (RB 2)

The San Francisco Bay Basin Plan includes numeric standards for dissolved oxygen and pH that are applicable to this water (San Francisco Bay RWQCB, 1995, p. 3-3). EPA's analysis of available data in the State's record found that 46-83% of available samples exceed the existing numeric water quality standards for DO and pH in Lake Merced, depending upon the monitoring station (n=14). The State has not provided a sound rationale for concluding that the water quality standards for pH and DO are not exceeded. The stated rationale that the available data may not be representative is unpersuasive. Data were collected at several locations over a recent multi-year time frame. The rationale that samples taken at depth should not be considered and that analysis only of surface samples demonstrates attainment is also unpersuasive because the Basin Plan includes no provisions indicating that these standards are to be applied only at the surface. EPA concludes that absent Basin Plan language to the contrary, these standards apply at all water depths. Based on these considerations, EPA has determined that this water should be identified for inclusion on the list for pH and DO. EPA is establishing a low priority for this listing based on the

considerations that no specific beneficial use impairments have been associated with DO and pH problems in the Lake, and that additional monitoring is warranted to verify these listings prior to developing TMDLs.

Lake Merritt Dissolved Oxygen (RB 2)

The San Francisco Bay Basin Plan includes numeric standards for dissolved oxygen that are applicable to this water (San Francisco Bay RWQCB, 1995, p. 3-3). EPA's analysis of available data in the State's record found that 24% of available samples exceed the existing numeric water quality standards for DO in Lake Merritt (n=126). The State has not provided a sound rationale for concluding that the water quality standards for DO are not exceeded. EPA notes that Lake Merritt was listed in 1998 for DO, and the State has provided no analysis showing that the basis for the previous listing was in error. In its other listing decisions, the State retained on its 2002 list waters listed in 1998 unless there was a sound basis for determining that the water now meets standards or that the prior listing was in error.

The State has not determined that the available data are insufficient to support an assessment. The rationale that samples taken at depth should not be considered and that analysis only of surface samples demonstrates attainment is also unpersuasive because the Basin Plan contains no provisions indicating that the DO standard does not apply at all water depths. Based on these considerations, EPA has determined that this water should be identified for inclusion on the list for DO. EPA is establishing a low priority for this listing based on the considerations that the other State listing for Lake Merritt was assigned a low priority and that additional monitoring may be warranted regarding the DO listing prior to developing TMDLs.

San Francisco Bay Nickel North of South San Francisco Bay (RB 2)

The currently applicable Basin Plan chronic water quality standard for nickel San Francisco Bay north of the South San Francisco Bay segment is 7.1 mg/L total recoverable nickel (San Francisco Bay RWQCB, 1995, p. 3-9). The State's analysis of available data found that this standard has been exceeded 102 times since 1993 (Regional Board staff report, cited in Fleck, 2003). The State erroneously applied the CTR dissolved nickel criterion in assessing the data, and reached the conclusion that the Bay meets the nickel standards based on the application of an inapplicable standard. EPA is identifying the following segments for inclusion on the Section 303(d) list based on the State's analysis of available nickel data in comparison with the applicable Basin Plan objective:

- Sacramento San Joaquin Delta (portion in San Francisco Bay Region),
- Lower San Francisco Bay,
- San Pablo Bay, and
- Suisun Bay.

EPA is establishing a low priority ranking for this listing as the State is in the process of developing site specific water quality standards for nickel that will likely be attained. Therefore, it is most reasonable to proceed with water quality standards modification that will likely obviate the need to complete a nickel TMDL for the Bay.

Chumash Creek Dissolved Oxygen (RB 3)

The Central Coast Basin Plan includes a numeric water quality standard for dissolved oxygen that is applicable to this water (Central Coast RWQCB, 1995, p. III-4). The fact sheet indicates that the standard was exceeded in 15% of samples (n=230). These data provide sufficient evidence that the water is impaired and should be listed, consistent with EPA's 1997 water quality assessment guidance. The fact sheet developed by the State for this water concludes that there is a high confidence that DO standards were exceeded. The State has not provided a sound rationale for concluding that the water quality standards for DO are not exceeded. Accordingly, EPA is identifying this water for inclusion on the list for DO. EPA is establishing a low priority ranking for this listing based on the considerations that there is no current evidence of beneficial use impairments associated with this pollutant, and that additional monitoring may be warranted regarding the listing prior to developing the TMDL.

Llagas Creek Dissolved Oxygen (RB 3)

The Central Coast Basin Plan includes a numeric water quality standard for DO that is applicable to this water (Central Coast RWQCB, 1995, p. III-4). The fact sheet developed by the State for this water reports that the DO standard was exceeded in 18% of samples (n=90). This data provides sufficient evidence that the water is impaired and should be listed, consistent with EPA's 1997 water quality assessment guidance. The State has not provided a sound rationale for concluding that the water quality standards for DO are not exceeded. Accordingly, EPA is identifying this water for inclusion on the list for DO. EPA is establishing a low priority ranking for this listing based on the considerations that there is no current evidence of beneficial use impairments associated with this pollutant, and that additional monitoring may be warranted regarding the listing prior to developing the TMDL.

Los Osos Creek Dissolved Oxygen (RB 3)

The Central Coast Basin Plan includes a numeric water quality standard for DO that is applicable to this water (Central Coast RWQCB, 1995, p. III-4). The fact sheet developed by the State for this water reports that the DO standard was exceeded in 18% of samples (n=251). This data provides sufficient evidence that the water is impaired and should be listed, consistent with EPA's 1997 water quality assessment guidance. The State has not provided a sound rationale for concluding that the water quality standards for DO are not exceeded. Accordingly, EPA is identifying this water for inclusion on the list for DO. EPA is establishing a low priority ranking for this listing based on the considerations that there is no current evidence of beneficial use impairments associated with this pollutant, and that additional monitoring may be warranted regarding the listing prior to developing the TMDL.

Orcutt Solomon Creek Boron (RB 3)

The Central Coast Basin Plan includes a numeric water quality standard for boron that is applicable to this water (Central Coast RWQCB, 1995, p. III-9). The fact sheet developed by the State for this water reports that the boron standard was exceeded in 15% of samples

(n=34). This data provide sufficient evidence that the water is impaired and should be listed, consistent with EPA's 1997 water quality assessment guidance. The State has not provided a sound rationale for concluding that the water quality standards for boron are not exceeded. Accordingly, EPA is identifying this water for inclusion on the list for boron. EPA is establishing a low priority ranking for this listing based on the considerations that there is no current evidence of beneficial use impairments associated with this pollutant, and that additional monitoring may be warranted regarding the listing prior to developing the TMDL.

San Antonio Creek Boron (RB 3)

The Central Coast Basin Plan includes a numeric water quality standard for boron that is applicable to this water. The fact sheet developed by the State for this water reports that the boron standard was exceeded in 67% of samples (n=6). This data provide sufficient evidence that the water is impaired and should be listed for this toxic pollutant, consistent with EPA's 1997 water quality assessment guidance. The State has not provided a sound rationale for concluding that the water quality standards for boron are not exceeded. Accordingly, EPA is identifying this water for inclusion on the list for boron. EPA is establishing a low priority ranking for this listing based on the considerations that there is no current evidence of beneficial use impairments associated with this pollutant, and that additional monitoring may be warranted regarding the listing prior to developing the TMDL.

Calleguas Creek Reach 4 Boron, Sulfate, Total Dissolved Solids (RB 4)

The Los Angeles Region Basin Plan does not contain specific numeric water quality standards for boron, sulfate, or TDS for Calleguas Creek Reach 4 (also known as Revolon Slough Main Channel). The State's rationale for not listing—that there are no water body specific numeric standards in the Basin Plan for these pollutants—is invalid. Federal regulations at 40 CFR 130.7(b) require States to apply narrative water quality standards. The State should have applied the Basin Plan narrative standard for chemical constituents(s) to assess these pollutants. The Basin Plan includes numeric guidelines for these pollutants that are "necessary to protect different categories of beneficial uses", including the beneficial uses designated for Calleguas Creek Reach 4 (Basin Plan, pp. 2-8 and 3-14). EPA concludes that it is appropriate to apply these numeric guidelines to evaluate potential exceedances of the narrative water quality standard for chemical constituents. Based on our review of data assembled by the State, EPA found that Reach 4 water exceeds the appropriate boron guideline in 11/13 samples, the total dissolved solids guideline in 13/15 samples, and sulfate guideline in 14/15 samples. EPA concludes that these data are sufficient to support a finding that the narrative water quality objective is not attained for these pollutants, and EPA is identifying them for inclusion on the Section 303(d) list. EPA is establishing a medium priority for this listing to coincide with the State's schedule for developing other TMDLs for listed pollutants in the Calleguas Creek basin.

San Gabriel River Reaches 1 and 3 and Coyote Creek Toxicity (RB 4)

The Los Angeles Region Basin Plan includes water quality standards for toxicity (Los Angeles RWQCB, 1994, pp. 3-16 – 3-17). As explained in EPA's comments to the State concerning its draft list, States are required to list waters that exceed a toxicity standard

unless the State can demonstrate that the presence of pollutants does not cause or contribute to the observed toxicity exceedances. The State found that these segments are impaired due to toxicity and had included them on the 1998 Section 303(d) list. The State did not include them on the 2002 Section 303(d) list based on reliance on an alternative control program that the State asserted would result in attainment of the toxicity water quality standards. The State was asserting that listing of this impaired water was not required pursuant to 40 CFR 130.7(b)(1). In response to EPA's request, the State provided a supplemental explanation of the basis for its conclusion that the alternative control program would result in attainment of several applicable standards, including toxicity. EPA found that the State's basis for not listing ammonia and the nutrient compounds is reasonable, and we are approving those listing decisions.

The State concluded that pending treatment plant upgrades at several water reclamation plants would also result in attainment of toxicity standards. To support this contention, the State relied upon the results of a toxicity identification evaluation (TIE) study conducted by the Los Angeles County Sanitation Districts, which was provided for EPA review. Our review of this TIE study found that the TIE was of uncertain reliability based on the summary description provided. The TIE study concluded that ammonia was a principal but not the sole cause of toxicity in Coyote Creek, and that some toxicity was associated with exposures to organophosphate pesticides and perhaps other organic chemicals. Toxicity was observed both upstream and downstream from the treatment plant discharge point. TIE results were not submitted for San Gabriel River Reaches 1 or 3. EPA notes that the numeric effluent limitations for toxicity in the permits for the Long Beach and Los Coyotes water reclamation plants that discharge to the Coyote Creek and San Gabriel River are currently being appealed before the State Water Resources Control Board; therefore, it is uncertain whether enforceable controls will continue be in place for toxicity in the future for these facilities.

EPA concludes that the analysis provided by the State does not support a conclusion that implementation of the enforceable program to address ammonia impairments will, with a high degree of certainty, result in attainment of the water quality standards for toxicity. Therefore, the State's decision not to list these segments based on the provisions of 40 CFR 130.7(b)(1) is invalid. EPA is identifying San Gabriel River Reach 1 and Reach 3, and Coyote Creek for inclusion on the Section 303(d) list for toxicity based on these findings. EPA is establishing a medium priority for these listings to coincide with the State's TMDL development schedules for other pollutants in the San Gabriel River basin, including the TMDL for toxicity for Walnut Creek in the San Gabriel Basin. It would be appropriate to reevaluate ambient receiving water toxicity following implementation of the treatment plant upgrades later in 2003 to determine whether these segments exhibit continued toxicity.

Bolsa Chica Copper and Nickel (RB 8)

The California Toxics Rule contains numeric water quality standards for copper and nickel that are applicable to this water (65 FR No. 97, pp. 31,681-31,719). The fact sheet indicates that available copper and nickel samples exceeded the applicable numeric standards in 100% of available samples (n=4) for each pollutant. This data provides a sufficient basis for concluding that applicable numeric water quality standards are not attained, and EPA is

identifying this water for inclusion on the Section 303(d) list for copper and nickel. EPA is setting a low priority for these listings as there is no current evidence of beneficial use impairments associated with this pollutant, and that additional monitoring may be warranted regarding the listing prior to developing the TMDLs.

Anaheim Bay Copper, Nickel, Dieldrin, and PCBs (RB 8)

The California Toxics Rule contains numeric water quality standards for copper and nickel that are applicable to this water (65 FR No. 97, pp. 31,681-31,719). The Basin Plan also contains narrative toxicity water quality standards that address potential fish tissue contamination by pesticides and PCBs (Santa Ana RWQCB, 1995, p. 4-11). EPA reviewed the data compiled by the State for Anaheim Bay and found that ambient water standards objectives for copper and nickel were exceeded in 100% of available samples for each pollutant (n=4), and that MTRLs (fish tissue screening levels) were exceeded for dieldrin and PCBs in 2 out of 2 available samples for each pollutant. The State's listing methodology indicated that in general, at least 2 samples are sufficient to support an assessment based on fish tissue data (listing report, p. 7). EPA notes that the Bay was listed in 1998 for metals and pesticides. The State generally retained on the 2002 list waters and pollutants that were included on the 1998 list unless available data and information were sufficient to support a finding that the water now meets standards or that the basis for the prior listing was flawed. EPA notes that the Regional Board staff apparently intended that this listing be continued in 2002 and stated that its delisting was an oversight (email from RWQCB to EPA, March 20, 2003). Based on these considerations, EPA concludes that the State has not shown good cause for not listing Anaheim Bay for copper, nickel, dieldrin, and PCBs. EPA is identifying this water and these pollutants on the Section 303(d) list. EPA is setting a low priority for these listings based on the considerations that there is no current evidence of beneficial use impairments associated with this pollutant, and that additional monitoring may be warranted regarding the listing prior to developing the TMDLs.

Huntington Harbor Copper, Nickel, Dieldrin, and PCBs (RB 8)

The California Toxics Rule contains numeric water quality standards for copper and nickel that are applicable to this water (65 FR No. 97, pp. 31,681-31,719). The Basin Plan also contains narrative toxicity water quality standards that address potential fish tissue contamination by pesticides and PCBs (Santa Ana RWQCB, 1995, p. 4-11). EPA reviewed the data compiled by the State for Huntington Harbor and found that ambient water quality standards for copper were exceeded in 100% of available samples (n=4). Applicable objectives for nickel were exceeded in 75% of available samples (n=4). EPA also found that MTRLs (fish tissue screening levels) were exceeded for dieldrin and PCBs in 4 out of 4 available samples for each pollutant. The State's listing methodology indicated that in general, at least 2 samples are sufficient to support an assessment based on fish tissue data (listing report, p. 7). EPA notes that Huntington Harbor was listed in 1998 for metals and pesticides. The State generally retained on the 2002 list waters and pollutants that were included on the 1998 list unless available data and information were sufficient to support a finding that the water now meets standards or that the basis for the prior listing was flawed. EPA notes that the Regional Board staff apparently intended that this listing be continued in 2002 and stated that its delisting was an oversight (email from RWQCB to EPA, March 20,

2003). Based on these considerations, EPA concludes that the State has not shown good cause for not listing Huntington Harbor for copper, nickel, dieldrin, and PCBs. EPA is identifying these pollutants on the Section 303(d) list. EPA is setting a low priority for these listings based on the considerations that there is no current evidence of beneficial use impairments associated with this pollutant, and that additional monitoring may be warranted regarding the listing prior to developing the TMDLs.

Good Cause for Delisting

California did not include on its 2002 Section 303(d) list several waters included on the 1998 list, and EPA asked the State to provide rationales for its decisions not to list several previously listed waters. With the few exceptions discussed above with respect to waters being added to the list by EPA, the State has demonstrated, to EPA's satisfaction, good cause for not listing these waters, as provided in 40 CFR 130.7(b)(6)(iv). California's basis for delisting these waters is that new data and information support a conclusion that water quality standards are not exceeded. EPA carefully reviewed each of these delisting decisions and finds that the State's conclusions are consistent with federal listing requirements.

In addition to the new Section 303(d) list, California's list submission includes a monitoring list, TMDLs completed list, and enforceable programs list. The monitoring list is comparable to Part 3 in EPA's recommended Integrated Report framework (EPA, 2001). The TMDLs completed list is comparable to part 4A in the Integrated Report Framework. The enforceable programs list is comparable to part 4 B in the Integrated Report Framework. The State submitted a separate section 305(b) report to ensure compliance with its submittal requirement.

As discussed above and in the EPA staff report entitled "Summary of Resolution of Issues Raised by EPA Concerning California's Draft 2002 303(d) List" (Smith, 2003), EPA raised and California largely addressed numerous issues and questions concerning the proposed list and listing methodology.

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 almost all public comments reasonable and in accordance with federal listing requirements. The EPA staff report entitled "Summary of Resolution of Issues Raised by EPA Concerning California's Draft 2002 303(d) List" (Smith, 2003) discusses cases in which EPA disagreed with the State's consideration of some EPA comments. EPA also identified some waters for inclusion on the list based, in part, on data and information raised by commenters. In general, we conclude the State did an excellent job in soliciting and responding to public comments on the Section 303(d) list.

A few specific public comment issues were of interest to EPA. First, EPA reviewed the many comments concerning the addition of temperature listings for several North Coast Rivers. EPA reviewed the technical basis for the State's decision and concluded that the

State's conclusion that these waters are impaired due to excessive temperature is technically and legally valid. Second, 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 included on the Section 303(d) list was valid.

Priority Ranking and Targeting

EPA reviewed California's priority ranking of listed waters for TMDL development, and concludes the State properly took into account appropriate ranking factors to make its determination, including the factors required to be considered by 40 CFR 130.7(b)4) (listing report, p. 14-15). The State's straightforward decision process for ranking the listed waters was based on Regional Board staff recommendations that were endorsed (and in one case, adjusted) by the State Board. EPA concludes that the State properly considered those factors required to be considered by Section 303(d) and applied a reasonable set of additional ranking factors, consistent with the priority ranking provisions of 40 CFR 130.7(b). In our review of the comment responsiveness summary, we found that the State provided reasonable responses to the few public comments that questioned priority ranking decisions.

EPA reviewed the State's identification of 440 water quality limited segments targeted for TMDL development in the next two years and concludes that the targeted waters (high priority) are appropriate for TMDL development in this time frame (see listing report, p. 15). Targeted waters are listed in Table 4 of the listing report. The State has targeted an appropriate mix of complex and relatively simple TMDLs addressing both point and nonpoint sources.

For those waters and pollutants added to the list by EPA, priority rankings are provided in Table 1 and described above. In general, EPA utilized the same ranking factors applied by California in making ranking decisions and also considered the fit of newly listed segments and pollutants with the priorities already set by the State for TMDLs in the vicinity of the newly listed segments.

Administrative Record Supporting This Action

In support of this decision to partially approve and partially disapprove the California's listing decisions, EPA carefully reviewed the materials submitted by California with its 303(d) listing decision and supplemental data and information provided at EPA's request. The administrative record supporting EPA's decision 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, and this decision letter and supporting report. 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 listing decisions meet the requirements of the Clean Water Act and associated federal regulations. As necessary, EPA obtained background data and information from the State to assist in our analysis of listing decisions for several specific waters. These additional data and information sources are included in our record. 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 submission. It was unnecessary for EPA to consider all of the materials considered by the State in order to determine that, based on the materials submitted to EPA by the State, the State complied with the applicable federal listing requirements. Moreover, federal regulations do not require the State to submit all data and information considered as part of the listing submission.

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RRWPC
Russian River Watershed Protection Committee

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July 6, 2003

David W. Smith
U.S. EPA, WTR-2
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Dear David:

I am mailing this letter on July 7th so you will not receive it until after your July 7th deadline, but I thought it would be helpful to communicate my message to you anyway. (I did not have your email or FAX number and the EPA letter specifically encouraged written letters sent to your address above.) I had other deadlines that got in the way of my writing this letter sooner and I apologize for being so late.

As you know, Laguna de Santa Rosa listing and tmdl issues have been a concern of ours for a very long time. It was partly through our efforts that the study on phosphorus contributions to the Laguna by Santa Rosa's treatment plant was written by Dr. Dan Wickham. His study helped to provide the scientific basis for the proposed nutrient listing by Regional Board staff.

We had been in extensive communication with State and Regional Board staff on this matter and provided extensive testimony on behalf of the listing as you probably know. We even had a special meeting with Craig Wilson, David Leland, and Matt St. John before the State Board hearing where the Regional Board recommendation to list the Laguna de Santa Rosa for nutrients was reversed.

To say we totally agree with the EPA's reversal of the State Board's decision to not list the Laguna for nutrients (only dissolved oxygen) is to put it mildly. In addition, we strongly agree with your rationale for doing so. We believe that the data presented in favor of the listing was quite extensive and provides adequate support.

In any case, this will have a medium priority and with staffing cut backs, it will be years before a TMDL is formulated. We totally support the recommended nitrogen and phosphorus listing for the Laguna de Santa Rosa.

Sincerely,

Brenda

Brenda Adelman

CC. David Leland, Matt St. John, Craig Wilson

#1696

WSPA
Western States Petroleum Association

Date: July 7, 2003

KAH
CJW
ccsmn

To: Mr. Wayne Nastri, EPA Region 9 , Regional Administrator

cc: Ms. Alexis Strauss - EPA Region 9
Mr. David Smith - EPA Region 9 415-947-3537
Mr. Art Baggett – Chairman, SWRCB
Ms. Celest Cantu - SWRCB 341-5621
Ms. Loretta Barsamian – SFRWQCB 510-622-2

Fax: (415) 947-3588

From: Steven Arita

Re: WSPA Comments on the US EPA Proposed Decision to add Waters to the 2002 303(d) List for California.

# of pages: 6
(including cover)

If you have problems receiving this material, please call Joey Martinelli at 916-444-9981.

COMMENTS: Dear Mr. Nastri: Attached you will find a copy of WSPA's comments on the US EPA Proposed Decision to Add Waters to the 2002 303(d) List for California. A hard copy will be mailed today. Should you have any questions, please contact me at (916) 498-7753. Thank you.

Western States Petroleum Association
Credible Solutions • Responsive Service • Since 1907

Steven Arita
Senior Environmental Coordinator

June 7, 2003

Mr. Wayne Nastri
Regional Administrator
US EPA Region 9
75 Hawthorne Street
San Francisco, CA, 94105

Subject: WSPA Comments on the US EPA Proposed Decision to Add Waters to the 2002 303(d) List for California

Dear Mr. Nastri:

The Western States Petroleum Association (WSPA) is a trade association that represents the majority of petroleum related interests in the Western United States. These interests include production, transportation, refining, and marketing of petroleum and petroleum-based products. WSPA member companies operate many oil and gas related facilities that discharge into California state waters, typically under the purview of National Pollutant Discharge Elimination System (NPDES) Permits. In that regard, the state's 303(d) list of impaired waters and the requirement that a TMDL be developed and implemented for those listed waters is very important to WSPA and its members.

EPA's proposed decision (68 Fed, Reg, 33693 (June 5, 2003)) in part disapproves the State Water Resources Control Board (SWRCB) decision not to list certain water bodies and pollutants, and adds those water bodies and pollutants to the state 303(d) list. WSPA disagrees with EPA's proposed action, and supports the SWRCB's decision not to place any of these waters on California's 303(d) list. In lieu of placing these water bodies on California's 303(d) list, we believe it is more appropriate that these water bodies be placed on the state's "monitoring" list of waters. Our detailed comments are provided below.

The SWRCB decision not to list the subject waters is consistent with the San Francisco Bay Regional Water Quality Control Board's recommendations and with the recommendations made by the National Academy of Science's National Research Council (NRC) in its 2001 TMDL report to USEPA. WSPA supports the SWRCB's decision to not list a water body where there is insufficient information on a water segment to support a 303(d) listing or where there is a

regulatory program in place to control pollutants and there is not yet sufficient data to demonstrate success.

WSPA believes that the waters to be added to the California 303(d) list by the USEPA proposed decision are all in the above category, and only warrant inclusion in the state's "monitoring" list. In fact, in nearly all cases, EPA recommends that the added water body be set as a low priority, and that "additional monitoring and assessment are appropriate to verify this listing before developing a TMDL." In a number of cases (Humboldt Bay-PCBs, Lake Merced-DO & pH, Chumash Creek-DO, Llagas Creek-DO, Los Osos Creek-DO, Orcutt Solomon Creek-Boron, San Antonio Creek-Boron, Anaheim Bay-Copper, Nickel, Dieldrin & PCBs and Huntington Harbor-Copper, Nickel, Dieldrin & PCBs) the US EPA proposed decision states that "there is no current evidence of beneficial use impairments associated with this pollutant, and that additional monitoring may be warranted regarding the listing prior to developing the TMDLs." California's "monitoring list" is intended for exactly this purpose.

In regards to the proposed addition of San Francisco Bay-Nickel North of South San Francisco Bay, WSPA has the following additional comments.

- EPA's decision with regard to this listing is premature, inefficient and unnecessary, as it is based on a regulatory anomaly that should soon be eliminated. Although the San Francisco Bay Basin Plan has a total Nickel water quality objective, it is clear that the California Toxics Rule (CTR) standard for dissolved Nickel is the appropriate standard that should be used to determine impairment. Monitoring data shows that the Bay meets the CTR water quality objective for Nickel. However, EPA based its proposed decision on the fact that, at present, the Nickel objective in the Basin Plan remains in place pursuant to footnote b of the CTR.

- The Regional Board is in the process of adopting amendments to the Basin Plan to achieve regulatory consistency by adopting CTR objectives in place of the so-called "footnote b parameters" retained in the Basin Plan. As originally proposed, the Basin Plan amendments would not have included the adoption of the CTR objective for Nickel. However, as the attached San Francisco Regional Board staff report (June 18, 2003) indicates, *at EPA's own request* the Regional Board deferred adoption of its proposed amendments in order to revise them to include the CTR objective for Nickel. Just as the Regional Board deferred its proposed action at EPA's request, WSPA believes that EPA should now defer its proposed decision, at least with respect to Nickel, in order to allow the Regional Board to adopt the revised Basin Plan amendments. This action would eliminate the basis for EPA's proposed decision regarding Nickel, Under these circumstances, WSPA believes it would be premature and inefficient for EPA to deny the Regional Board the opportunity to complete the action which EPA itself requested, unnecessarily overruling the State Board and ordering a pointless 303(d) listing and TMDL process.

- Moreover, as is noted in the USEPA proposed decision, "the state is developing a site specific water quality objective for Nickel that will likely be attained. Therefore it is most reasonable to proceed with water quality standards modification that will likely obviate the need complete a Nickel TMDL for the Bay." Indeed, it was in anticipation of this site-specific objective that the Regional Board initially excluded Nickel from its

proposed Basin Plan amendments to conform to the CTR, in an attempt to avoid an inefficient and unnecessary revision: see the attached Regional Board staff report. Ultimately the Regional Board will adopt the site-specific objective for Nickel through a separate Basin Plan amendment. Until that time, WSPA believes that the state correctly put San Francisco Bay-Nickel North of South San Francisco Bay on its "monitoring" list.

In all cases, the State Board's decision making with regard to placing water bodies on the monitoring list is consistent with NRC recommendations. WSPA supports those decisions and respectfully requests that U.S. EPA allow those water bodies to remain on the "monitoring" list.

We would like to add that the USEPA proposal to add the above water bodies to the 303(d) list is not consistent with USEPA's own Draft Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Section 303(d) and 305(b) of the Clean Water Act. In that guidance, USEPA proposes a five-category scheme that provides a comprehensive description of the status of all waters within a state. Category 5 waters (essentially the 303(d) list) is reserved for the state list of waters that are truly impaired and that will require a TMDL. The waters on U.S. EPA's "added" list for California would all fit into Categories 2-4 and not into Category 5.

In closing, WSPA supports the SWRCB decision to not place the above "added" water on its 303(d) list, and recommends that USEPA modify its proposed decision and move those waters to California's "monitoring" list.

WSPA appreciates this opportunity to have our comments considered. .

Sincerely,

cc: Alexis Strauss – US EPA Region 9
David Smith – US EPA Region 9
Art Baggett – SWRCB
Celeste Cantu - SWRCB
Loretta Barsamian-SFRWQCB

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Lynn Suer)
MEETING DATE: June 18, 2003

ITEM: 6

SUBJECT: Proposed Amendment to the Water Quality Control Plan (Basin Plan) for San Francisco Bay Region to Update Water Quality Objectives and NPDES Implementation Provisions - Hearing to Consider Adoption of Proposed Amendments [Lynn Suer 622-2422, als@rb2.swrcb.ca.gov]

CHRONOLOGY:
1986 – Regional Board adopts numeric water quality objectives in Basin Plan
1995 – Regional Board adopts amended Basin Plan, retaining 1986 water quality objectives
April 1998 – Public Notice of Initiation of Triennial Review of the Water Quality Control Plan (Basin Plan)
May 2002 – CEQA Scoping meeting for Proposed Amendment

DISCUSSION: Planning staff has prepared a proposed amendment to the Basin Plan, which updates water quality objectives in order to create regional consistency in the application of objectives throughout the San Francisco Bay Region. The proposed objectives are based on values promulgated by U.S. EPA in the California Toxics Rule (May, 2000). These values already apply throughout the State and in San Francisco Bay waters south of the Dumbarton Bridge.

The goals of the proposed amendment are to:

- Update and improve the scientific bases of regional water quality objectives
- Establish regionwide consistency in the application of water quality objectives and definitions of marine, estuarine and freshwater
- Remove obsolete NPDES implementation provisions, replacing them with provisions based on legally applicable State Board policy
- Revise sections of the Basin Plan that are out-of-date or inaccurate

A Hearing Notice and Notice of Filing of a Draft Environmental Document were published on April 4, 2003. At that time a supporting staff report, draft amendment, and CEQA Checklist were made available for a 45-day public review period with written comments due on May 22, 2003.

Based on comments from both U.S. EPA and Bay Area Clean Water

WaterKeepers

MJL
cy R. Wilson
A. Baggett

RECEIVED
JUL 9 2003
OFFICE OF
CHIEF COUNSEL

July 7, 2003

Via Facsimile and U.S. Mail

David Smith
TMDL Team Leader, Water Division
U.S. Environmental Protection Agency Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: California's 2002 303(d) List

Dear Mr. Smith:

I am writing on behalf of WaterKeepers Northern California and its projects San Francisco BayKeeper ("BayKeeper") and DeltaKeeper concerning California's 2002 Clean Water Act § 303(d) list of impaired waters ("303(d) list") proposed by the State Water Resources Control Board ("State Board"). The State Board submitted its proposed 303(d) list to EPA in February 2003. EPA made a few changes and published the list for comment in the Federal Register. WaterKeepers urges EPA not to approve the 2002 list as currently framed for both statewide legal and policy reasons and with regard to issues that are specific to the San Francisco Bay and Central Valley waterways.

I. STATEWIDE ISSUES

A. Invasive Species are Pollutants

Invasive species clearly fit the definition of "pollutant" under Clean Water Act Section 502(6), which broadly defines the term to include "biological materials." Biological materials have been interpreted by U.S. EPA and through case law to include harmful organisms, which would include invasive species. For example, in proposing new revisions to the TMDL regulations, U.S. EPA stated that "all microbial contaminants that may be discharged to waters of the U.S. (*e.g.* bacteria, viruses and other organisms) fall under the term 'biological materials'." 64 Fed. Reg. at 46017 (August 23, 1999). This EPA interpretation supports a common sense interpretation of the term "biological materials" as including organisms.

The courts also support this interpretation of "pollutant." For example, court in *National*

Wildlife Federation v. Consumers Power Co., 862 F.2d 580, 585 (6th Cir. 1988) found that live fish were "biological material" under the Clean Water Act. There is no logical distinction between native versus non-native fish for the purposes of determining what is "biological material," especially in light of the fact that in many cases it is extremely difficult to determine whether an organism is native or non-native to a particular ecosystem.

The State Board itself approved listing various waters in Region 2 as being impaired by "exotic species," including Carquinez Strait, Richardson Bay, San Francisco Bay (Central), San Francisco Bay (Lower), San Francisco Bay (South), San Pablo Bay, Suisun Bay, and the Sacramento/San Joaquin Delta. In approving the listings, the Board approved the staff report, which found that "[e]xotic species meet the definition of 'pollutant' at Section 502 of the Clean Water Act."[1] Because exotic, or invasive species are a recognized impairing pollutant, numerous waterways statewide must be listed, and State and Regional Board rational for rejecting listing -- that they do not want to regulate ballast water discharges – must be rejected.

B. It is Illegal and Bad Policy to Remove Waterways from the 303(d) List

The State Board has removed numerous waterways from the last 303(d) list and put them on other lists, respectively dubbed the "Monitoring (or Watch) List," the "Enforceable Programs List," and the "TMDLs Completed List." As discussed in WaterKeepers' previous comments, not only are these secondary lists bad policy, the Clean Water Act makes no provision for removal of waterways from a 303(d) list to a non-303(d) list. The Act is clear: unless "best practicable control technologies" ("BPT") and secondary treatment at sewage treatment plants are adequate to implement all applicable water quality standards, a waterway must be on the 303(d) list. 33 U.S.C. §§ 1311(b)(1)(A), (B); 33 U.S.C. § 1313(d)(1)(A). The Act required all discharge permits to implement BPT (or secondary treatment for POTWs) by no later than 1977.[2]

The Act provides for 303(d)-listed waters that comply with water quality standards, and therefore clearly does not anticipate delisting once water quality standards are met. Section 303(d)(4) requires that for 303(d)-listed waters, "where the quality of such waters equals or exceeds levels necessary to protect the designated use for such waters or otherwise required by applicable water quality standards," the antidegradation policy applies to permit revisions and other decisions that may affect water quality. 33 U.S.C. § 1313(d)(4)(B). In conjunction with

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[1] California Regional Water Quality Control Board, San Francisco Bay Region, "Prevention of Exotic Species Introductions to the San Francisco Bay Estuary: A Total Maximum Daily Load Report to U.S. EPA," pp. 1, 7-8 (May 8, 2000) ("TMDL Report"), www.swrcb.ca.gov/rwqcb2/download/Tmdl.pdf.

[2] It is important to note that the State Board is not arguing that California's discharge permits fail to provide for BPT and secondary treatment.

the plain meaning of the 303(d)-listing requirements, this provision makes clear that Congress envisioned that the TMDL program would achieve standards and, even after they were achieved, the waters would remain on the 303(d) list.

From a policy perspective, the proposed Watch List, Enforceable Programs List and Completed TMDLs List are ill-advised. Such lists can serve no meaningful purpose other than to avoid or delay the restoration of polluted waterways. The alternative lists will provide an easy way for Regional Boards, under intense pressure from dischargers, to avoid addressing serious water quality problems. Interested dischargers will always argue that more data are needed, that an alternative enforcement program exists, or that TMDLs are underway for the particular discharger's receiving water. Because these alternative lists have no regulatory effect or mandate, they exist purely for the purpose of justifying a decision keep a waterbody off the 303(d) List. They provide the appearance of regulatory action while in reality depriving listed waterbodies of 303(d) protections.

In sum, any waterbody that is currently proposed to be listed on the Watch List, the Enforceable Programs List or the TMDL Completed List for which BPT and secondary treatment have not achieved water quality standards must be listed on the 303(d) list, regardless of its presence on other lists that the Board may choose to develop.

II. SAN FRANCISCO BAY ISSUES

WaterKeepers applauds EPA's decision to list Lake Merced for Dissolved Oxygen and pH, Lake Merritt for Dissolved Oxygen, and San Francisco Bay above South San Francisco segment for Nickel. Unfortunately, EPA has failed to correct several of the Regional and State Board's important omissions, including delisting of San Francisco Bay for Copper, and downgrading the priority of a dioxin TMDL for San Francisco Bay.

A. San Francisco Bay Must Remain on the 303(d) List for Copper

For the benefit of the Regional and State Boards, WaterKeepers compared the Basin Plan standard for copper (4.9 ug/l, total copper) [1] with Regional Monitoring Program data for total

[1] Footnote f of Table 3-3 in the San Francisco Basin Water Quality Control Plan indicates that 4.9 ug/l of total copper is the "most appropriate" standard. Phone conversation with Steve Moore of the Regional Board, May 22, 2002, confirms that the Board used 4.9 ug/l as the basis for the existing 303(d) listing for copper in the Bay.

copper from 1993-1999.[1] Out of 445 samples taken during this period from sampling stations north of the Dumbarten Bridge (including Station # BA 30 which appears to be at the Bridge), we tallied 89 violations of the Basin Plan objective through 1999. Seventeen violations occurred 1998; 14 in 1999. Many of the violations exceeded the standard by two or three fold. Since the end of public to the State Board, data for the 2000 monitoring period has become available, showing five additional exceedences of the 4.9 ug/l standard for copper in San Francisco Bay north of the Dumbarten Bridge. This analysis indicates that the Bay is fully impaired by copper and must be maintained on the 303(d) list.

It is not clear what standard the Regional and State Boards used to make their decision to delist the San Francisco Bay for copper. Applying EPA's criteria for total copper (2.9 ug/l) would result in many more violations. While the San Francisco Regional Board is currently in the process of developing a Site Specific Objective ("SSO") for copper in the Bay for site specific copper toxicity, until an SSO for copper is completed, the Basin Plan continues to apply. CTR *explicitly* states that its criteria for copper do not apply to the San Francisco Bay where Basin Plan objectives continue to apply (see Federal Register v.65, no.97, May 18, 2000, footnote (b)). The decision to delist the Bay for copper is founded on neither law nor science, and WaterKeepers urges EPA to relist the Bay for copper.

B. The Bay Is Severely Polluted by Dioxins, Which Impairs Important Bay Uses

EPA should not approve the 2002 list because the State Board has, without basis, lowered the priority for issuance of a dioxins TMDL for San Francisco Bay. On its own initiative EPA amended California's 1998 303(d) List to add dioxins as impairing pollutants in San Francisco Bay and indicated it had a "high" priority for the TMDL preparation. Instead of preparing a dioxin TMDL within two years as required, the State Board has changed the TMDL completion date by reducing its priority from high to low. Low priority TMDLs have no official completion date.[2] EPA regulations require that TMDL priority rankings take "into account the severity of

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[1] http://www.sfei.org/rmp Data for 2001 was not available via the internet.

[2] This is another reason why EPA should not approve the 2002 303(d) list. The list lacks schedules for the completion of the medium and low priority TMDLs despite an explicit request from EPA that "the State to submit a schedule for the establishment of TMDLs for all waters needing TMDLs." Letter dated, May 14, 2002, from Alexis Strauss, Director, Water Division, to Arthur Baggett, Jr. and Celeste Cantú. EPA requested that the State develop this schedule concurrent with its 303(d) list. The State Board ignored this comment and its 2002 303(d) list lacks proposed completion dates for TMDLs targeted as medium and low priorities. Including such a schedule would not be difficult. The San Francisco Bay Regional Water Quality Control Board ("Regional Board") has elsewhere already established start dates for TMDLs within its geographic area (except for a TMDL for dioxins and furans in San Francisco Bay). (see "San Francisco Bay RWQCB – Future TMDL Projects Schedule" http://www.swrcb.ca.gov/ rwqcb2/TMDL/TMDL%20Projects /SFBRWQCB_Future_TMDL_proj_sch.pdf). These start dates should be

the pollution and the uses to be made of such waters." 40 C.F.R. 130.7(b)(4). The record does not support an assumption that the "severity" of dioxins and the "uses" of San Francisco Bay have changed since EPA made its listing decision in 1999. In fact, the threat to the Bay from dioxins, which are bioaccumulative toxicants, has not decreased since 1999, and allowing the State Board to downgrade the dioxins TMDL priority would be contrary to both the letter and spirit of the Clean Water Act. Moreover, we have reviewed EPA's administrative record supporting EPA's proposed approval of the 2002 303(d) List and it is devoid of any evidence supporting a downgrading of the dioxins TMDL priority.

III. CENTRAL VALLEY ISSUES

The Regional and State Boards failed to list numerous Central Valley waterways that are not achieving and cannot achieve water quality standards through implementation of BPT and secondary treatment. First, as discussed above, exotic species are a pollutant that impairs many waterways in the Central Valley, which have not been listed for exotic species. Second, chronic temperature exceedences in these waterways must be, and are not being, addressed through the 303(d) list. Finally, Smith Canal is indisputably impaired by PCBs, and does not appear on the 2002 303(d) list.

A. Temperature Impairs Many Central Valley Waterways That Are Not Listed

Virtually all Central Valley waterways below major impoundments are identified Critical Habitat for species listed pursuant to state and federal Endangered Species Acts. Virtually all of these waterways are identified as having temperatures above levels protective of salmonids. These include, but are not limited to: the San Joaquin River, Stanislaus River, Merced River, Tuolumne River, Calaveras River, Mokelumne River, Bear River, Sacramento River, Yuba River, Feather River, Colusa Basin Drain, American River, Clear Creek and Deer Creek.

1. Waterbodies that are impaired by temperature must be listed.

The Clean Water Act explicitly mandates the inclusion of temperature-impaired waterbodies on the 303(d) List. This requirement is a nondiscretionary duty to list. High temperature is a significant reason for the decline of fisheries throughout the Central Valley, yet only one waterway is on the proposed 2002 303(d) list for temperature in Region 5.

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formally added to the 2002 303(d) list.

Heat is a pollutant under the Clean Water Act. The definition of "pollutant" includes heat, and the Act provides for "thermal" water quality standards. 40 C.F.R. 122.2; 33 U.S.C. § 1313(h). Every state is required to "identify those waters or parts thereof within its boundaries for which controls on thermal discharges under section 1311 of this title are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife." 33 U.S.C. § 1313(d)(1)(B). Section 303(d)(1)(D) in turn states that "[e]ach State shall estimate for the waters identified in paragraph (1)(B) of this subsection the total maximum daily thermal load required to maintain a balanced indigenous population of shellfish, fish, and wildlife." 303(d)(2) requires each state to submit to EPA a list of the waters 303(d)(1)(D). The State Board's 2002 303(d) list purports to be the required list, but because it does not adequately identify waterways for which the thermal loads fail to assure protection and propagation of a balanced indigenous population of fish, shellfish and wildlife, EPA should add the Central Valley waterways listed above.

2. Copious data establishes impairments of Central Valley waterways for temperature.

Regional Board staff concluded that they had no obligation to list additional waterways for temperature impairment because they had no obligation to conduct new scientific analyses to determine whether an impairment exists. The underlying assumption – that there is insufficient data to determine impairment – is incorrect and was disputed by WaterKeepers at the Regional and State Board levels. State and Regional Board files contain voluminous documentation regarding temperature impairment.

The Regional Board has found that "There are adults and juveniles in portions of the [Sacramento] River every month of the year. Juvenile salmon show signs of adverse effects at River temperatures of 65 F. Migration of adults is usually delayed when River temperatures reach 70 F. At 72 F, adult mortality may occur." *Finding No. 32 of the Sacramento Regional Wastewater Treatment Facility NPDES Permit.* The February 1998 Thermal Plan Compliance Report by Sacramento Regional County Sanitation District (part of the hearing record) shows that the Sacramento River exceeds 65 F 49.2% of the time between April-June, 99.9% of the time between July-August and 38.6% of the time between September-November. The report shows that the Sacramento River exceeds 69 F 24.5% of the time between April-June, 92.8% of the time between July-August and 18.5% of the time between September-November. High temperatures in the Sacramento River "cause the loss of many adult salmon and eggs spawned in the river." *CalFed EIR/EIS.*

Increased water temperature is also identified as one of principal causes of declining chinook salmon populations in the San Joaquin River. *September 1998 EIR/EIS titled Meeting*

Flow Objectives for the San Joaquin River Agreement 1999-2010 ("VAMP Agreement"). The main stem of the San Joaquin River between the Merced River confluence and Vernalis often exceeds lethal levels for migrating fall run chinook salmon. *CalFed EIR/EIS.* When the Vernalis flow is 5,000 cfs or less in May, water temperatures are at levels of chronic stress. The City of Stockton's Ambient Water Quality Monitoring Program on the San Joaquin River (in Regional Board files) shows that temperatures during the September migration of chinook salmon reach 74.3 F (23.5 C).

With respect to the Merced River, the CalFed EIR/EIS states that "[i]n late April and May, stream temperature often exceeds stressful levels for emigrating smolts" and "[r]esults of the stream temperature modeling study indicate that in May, and at times in late April, smolts emigrating from the Tuolumne River encounter stressful or lethal water temperatures...." In the Stanislaus River, flows "... exceed critical temperatures for salmon spawning and egg incubation."

In the American River, temperatures in summer and fall are often "above 70 F." *CalFed EIR/EIS.* For Delta channels, the CalFed EIR/EIS observes that "[d]uring spring and fall, Delta channels are used by anadromous fish for migrating between rivers and the Pacific Ocean and are used as rearing areas as well Untimely high water temperatures stress migrating fish by delaying their movement or by causing mortality."

In 1993-94, the State Board conducted an eight-day evidentiary hearing regarding the Mokelumne, during which substantial evidence was introduced that established that instream temperatures frequently exceed levels protective of spawning, incubation, emergence, rearing and emigration for steelhead and fall-run chinook salmon. The evidence was presented by California Department of Fish and Game, U.S. Fish and Wildlife Service and biologists retained by the Committee.

The State Board has conclusively established that the Yuba River exceeds criteria for temperature. In its Decision Regarding Protection of Fishery Resources and Other Issues Relating to Diversion and Use of Water From the Lower Yuba River, the State Board concludes that "compliance with requirements to provide suitable water temperatures year-round for all life stages of chinook salmon and steelhead is not feasible in the lower Yuba River." *State Water Board Decision 1644.* These rivers must be listed as impaired for temperature to ensure that additional loadings of high temperature do not occur.

B. Smith Canal PCBs

WaterKeepers requested that the Regional and State Boards list Smith Canal for PCBs.

In failing to list, the Regional Board relied on flawed 30-year old data from NAS and USDA, disregarding contemporaneous, reliable data. WaterKeepers now urges EPA to disapprove the 2002 303(d) list to the extent Smith Canal was not listed, and add Smith Canal for PCBs to the list. Consumption advisories in San Francisco Bay were based on Office of Environmental Health Hazard Assessment ("OEHHA") values of 20 ng/g wet weight.[1] Catfish and large mouth bass caught in Smith Canal contained 102 ng/g and 112 ng/g respectively. The health advisories in the Bay were based on an expected consumption of one meal per week. Available evidence indicates that consumption among the subsistence fishing community in the Delta is far higher.

In your *Review of California's 2002 Section 303(d) Water body List -- Enclosure to letter from Alexis Strauss, EPA Region 9 to Celeste Cantú, State Water Resources Control Board* you observe that with regard to "toxic pollutants, the State carefully considered, and was willing to list based on, contaminated sediment and fish tissue data." p. 10. This was not the case with Smith Canal, and as a result, Smith Canal, which is impaired by PCBs, which are extremely toxic, is not on the 303(d) list. Because of the extremely high concentrations of PCBs in fish tissue that have been documented in Smith Canal EPA should act to list Smith Canal as impaired for PCBs. Contaminant Concentrations in Fish from the Sacramento-San Joaquin Delta and Lower San Joaquin River by Jay A. Davis and Michael D. May, San Francisco Estuary Institute, 1998.

In conclusion, WaterKeepers Northern California and its projects DeltaKeeper and San Francisco BayKeeper respectfully request that EPA disapprove the 2002 303(d) list and incorporate the changes described above. Thank you for this opportunity to comment on the 2002 303(d) List. If you have any questions, please do not hesitate to contact me at 415.856.0444 x 103.

Sincerely,

Shana Lazerow
WaterKeepers Northern California

[1] OEHHA values were calculated following EPA 1995 guidance.

PROOF OF SERVICE

I certify that I am a citizen of the United States. I am over the age of 18 years and not a party to this action. I certify that my work address is 55 Hawthorne Street, Suite 550, San Francisco, California 94105. I am familiar with this office's normal business practice for collection and processing of correspondence for mailing with the U.S. Postal Service, and that practice is that correspondence is deposited with the U.S. Postal Service the same day as the day of collection in the ordinary course of business.

On the date specified below, I served the following document(s):

WATERKEEPERS' COMMENTS RE CALIFORNIA'S 2002 303(D) LIST

☑ (BY MAIL) by causing a true copy thereof to be placed in a sealed envelope and deposited in the United States mail with postage prepaid to the addressee(s) set forth below, or as stated on the attached service list.

☐ (BY PERSONAL SERVICE) by causing a true copy thereof to be placed in a sealed envelope and hand delivered to the offices of the addressee(s) set forth below, or as stated on the attached service list.

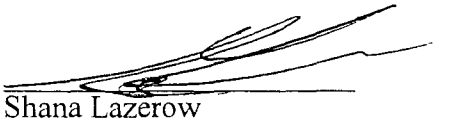
☐ (BY OVERNIGHT DELIVERY) by causing a true copy thereof to be placed in a sealed envelope and deposited with an overnight delivery carrier for delivery to the offices of the addressee(s) set forth below, or as stated on the attached service list.

Elizabeth Miller Jennings
Office of Chief Counsel
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Loretta Barsamian
Executive Officer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Thomas R. Pinkos
Executive Officer
Central Valley Regional Water Quality Control Board
3443 Routier Road, Suite A
Sacramento, CA 95827-3003

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed this 7th day of July 2003 at San Francisco, California.



Shana Lazerow

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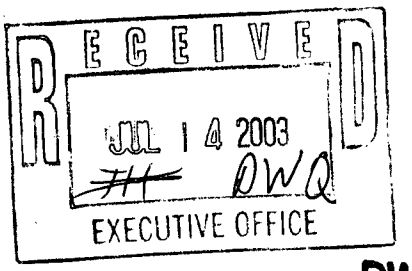
Formerly the Center for
Marine Conservation



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The Ocean Conservancy

July 8, 2003

David Smith
TMDL Team Leader, Water Division
U.S. Environmental Protection Agency Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Clean Water Act Section 303(d) – Availability of List Decision, 68 Fed. Reg. 33693 (June 5, 2003)

Dear Mr. Smith:

On behalf of The Ocean Conservancy's 25,000 California members, I am pleased to submit the following comments on EPA's partial approval and partial disapproval of California's 2002 Section 303(d) list.[1] First, we would like to extend our thanks and appreciation for the hard work – both by the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs) and by U.S. EPA – that went into the development and review of this list. The Ocean Conservancy strongly supports the decision to use the 1998 303(d) list as the basis for the 2002 list and to approve the decision to retain previously listed waters unless new information dictates otherwise. The Ocean Conservancy also strongly supports the additions to the list proposed by the SWRCB, as well as those proposed by EPA in its staff report and letter regarding its decision.[2]

We also have continuing concerns about certain aspects of the list. Specifically:

- The placement of impaired waters on alternative lists such as the "TMDLs Completed List," the "Enforceable Programs List," and the "Monitoring List" instead of on the 303(d) list is contrary to the provisions of the Clean Water Act;
- The "changes in presentation" of certain water bodies, in which such water bodies are "redefined" to be smaller in size, amount to delistings that have been made without an adequate opportunity for public review and comment; and

[1] 68 Fed. Reg. 33693 (June 5, 2003).
[2] Letter from Alexis Strauss, Associate Regional Administrator, U.S. EPA Region IX to Celeste Cantu, Executive Director, SWRCB (June 5, 2003).

- The decision not to list waters impaired by invasive species is contrary to law and contrary to EPA's own policy, as expressed through its decisions to approve the listing of other water bodies as impaired by invasive species.

Our comment letters to the State Water Resources Control Board, dated November 22, 2002 and February 3, 2003 discuss each of these points in detail, and are attached and incorporated herein by reference.

The Use of Alternative Lists Is Inappropriate

The State submitted and EPA approved several alternative lists, each of which contained water bodies that were impaired but were nevertheless not placed on the 303(d) list. The "TMDLs Completed" list contains "those water quality limited segments that have TMDLs with approved implementation plans."[3] The "Enforceable Programs" list contains water quality limited segments for which "other enforceable programs will result in timely attainment of water quality standards."[4] The "Monitoring" list contains water bodies for which only "minimal, contradictory, or anecdotal information" exists, but the existing information supports a finding that the water body is impaired.[5]

At bottom, what these lists have in common is that they contain water bodies that do not meet applicable water quality standards. Clean Water Act section 303(d)(1)(A) requires each state to identify "those waters within its boundaries for which the effluent limitations . . . are not stringent enough to implement any water quality standard applicable to such waters."[6] Therefore, the plain language of the law requires the impaired water bodies on these lists to be on the 303(d) list. There is simply no provision in any section of the Act that permits the states or EPA to remove waters from the 303(d) list if they do not meet applicable water quality standards.

The State's rationale for creating the alternative "TMDLs Completed" list is to "show progress." However, progress toward achievement of water quality standards is not the standard for removal of a water body from the 303(d) list under the Clean Water Act. Moreover, delisting water segments that have completed TMDLs but that are not attaining water quality standards can delay their return to standards, as federal grants for monitoring and restoration are often linked to Section 303(d) listing.

Likewise, with respect to the "Enforceable Programs" list, the existence of requirements that have the potential to achieve water quality standards at some time in the future – but have not done so to date – does not exempt the waters from listing under Section 303(d). Given that the Clean Water Act requirements are twenty-five or more years old, or fifteen years old in the

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[3] State Water Resources Control Board, Division of Water Quality, "Revision of the Clean Water Act Section 303(d) List of Water Quality Limited Segments," *available at* http://www.swrcb.ca.gov/tmdl/docs/staff_report_303d_vol1_021903.pdf (February 2003).

[4] Smith, David, U.S. EPA Region IX, "Summary of Resolution of Issues Raised Concerning California's Draft 2002 303(d) List" (April 24, 2003).

[5] *See supra* note 3.

[6] 33 U.S.C. § 1313(d)(1)(A).

case of regulation of stormwater discharges, it is abundantly clear that the state has simply been unable to implement these requirements in a manner that is consistent with protecting the health of these waters.

Moreover, the inconsistent actions of the SWRCB with respect to these "enforceable programs" render their protective potential extremely suspect. For example, the SWRCB approved the placement of Coyote Creek on the "Enforceable Programs" list on the basis that plant upgrades at several Los Angeles Sanitation District facilities would solve the facilities' effluent toxicity problems. However, the SWRCB is now poised to approve an order that would remove numeric effluent toxicity limits for these facilities, thereby eliminating the very same enforceable provisions it used to justify the delisting of Coyote Creek.[7] The SWRCB's simultaneous pursuit of these two fundamentally incompatible positions demonstrates the potential for abuse of the "Enforceable Programs" list.

Finally, the standard for inclusion on the "Monitoring List" is unclear, as there are no guidelines for what is meant by "insufficient information." This raises important concerns about the potential for abuse of the list. At a minimum, any water bodies for which the weight of the evidence supports a finding of impairment belong on the 303(d) list.

Reducing the Size of Listed Water Bodies is Equivalent to Delisting

The State's submission made certain "changes in presentation of the water bodies" such that the water bodies were "redefined into smaller or more clearly defined areas" such that "[t]he total area or miles affected is, for the most part, substantially less than presented in the 1998 section 303(d) list."

Any reduction in the size of listed water bodies is tantamount to delisting of the deleted areas. Consequently, these delistings should be accompanied by specific information describing and supporting the decisions. A compilation of this information should be readily available to the public, which should have a specific opportunity to review and comment on these decisions.

The 303(d) List Must Contain Waters Impaired by Invasive Species

Several commenters, including TOC, recommended listing certain water bodies as impaired by invasive species. Specifically, commenters asserted that Huntington Harbor and Agua Hedionda Lagoon, in Regions 8 and 9 respectively, should be listed as impaired by *Caulerpa taxifolia*. In addition, commenters suggested that the Delta Estuary and San Joaquin and Sacramento Rivers in Region 5 should be listed as impaired by numerous invasive species. In each case, the State Board agreed based on the evidence presented that the invasive species were a "problem" (Region 5) and a "substantial threat" (Regions 8 and 9), but rejected the proposed listings solely on the grounds that invasive species are not pollutants.

The EPA approved the state's decision not to list the water bodies, but on an altogether different ground than that chosen by the SWRCB. EPA, unlike the SWRCB, found that while

[7] State Water Resources Control Board, Order No. 2003-____ (Draft), In the Matter of the Petition of County Sanitation District No. 2 of Los Angeles County and Santa Monica BayKeeper (June 10, 2003).

the information provided by commenters demonstrated that invasive species "may cause adverse impacts on aquatic ecosystem diversity and health," there was "no clear evidence presented to support a finding that a particular water quality standard is not being implemented as a result of the presence of invasive species" in those waters.[8] EPA added that "[w]e are unaware of a specific methodology that is available to support such a determination with respect to currently applicable California water quality standards."[9]

First, with respect to the SWRCB's rationale, there is no basis in fact or law for the conclusion that aquatic invasive species are not pollutants under the Clean Water Act. This is discussed in significant detail in our prior comments, which are attached and incorporated herein by reference.

EPA, apparently realizing that the state's rationale for refusing to list these water bodies was unsupportable, has developed an entirely new rationale for approving of the state's refusal to list these waters as impaired by invasive species. EPA took the position, not that invasive species are not pollutants, but that commenters failed to supply evidence sufficient to demonstrate that water quality standards were not being met as a result of the presence of invasives. EPA did not stop there, however, and went on to assert that it would be impossible for commenters to make such a demonstration ("We are unaware of a specific methodology that is available to support such a determination with respect to currently applicable California water quality standards").[10]

The information that commenters provided, however, establishes beyond doubt that beneficial uses – which are the "applicable water quality standards" under the Act[11] – are impaired by the presence of invasive species. With respect to the Region 5 proposed listings, Mr. Bill Jennings of DeltaKeeper stated in his June 15, 2002 comment letter that "the San Francisco-Sacramento-San Joaquin Bay Delta Estuary has been identified as one of the most 'invaded' estuaries in the world with respect to the introduction of exotic, non-native species." Mr. Jennings went on to document not only the fact of these invasions, but their impact on the ecosystem, citing and including in the record by reference U.S. Fish and Wildlife Service and Department of Water Resources reports, among others. These reports show that invasive species cause structural changes to habitat, dominate food webs, compete with native species for food resources, and have been otherwise associated with the elimination or decline of native species. Furthermore, as Mr. Jennings discussed in his comments, invasives have been associated with the failure of the ecosystem to "sustain healthy populations of anadromous and native fish, resulting in increasing limitations and threats of limitations on water diversions, wastewater discharges, channel dredging, levee maintenance, construction and other economic activities in and near the Estuary, with implications for the whole of California's economy."[12] The inescapable conclusion is that numerous beneficial uses, including marine and freshwater habitat,

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[8] *See supra* note 4.
[9] *Id.*
[10] *Id.*
[11] 40 C.F.R. § 130.7(b)(3).
[12] Cohen, Dr. Andrew and James T. Carlton, *Nonindigenous Aquatic Species in a United States Estuary: a Case Study of the Biological Invasions of the San Francisco Bay and Delta: A Report for the United States Fish and Wildlife Service* (1995).

navigation, as well as municipal and industrial uses, are impaired as a result of invasive species in Region 5.

Finally, it is undisputed that the waters at issue here are hydrologically connected to waters in Region 2 that have already been added to the 303(d) list on the basis of impairment by invasive species – specifically the Carquinez Strait, Richardson Bay, San Francisco Bay (South, Central and Lower), San Pablo Bay, and the areas of the Sacramento/San Joaquin Delta in Region 2. Given the hydrological integration of these waters, it is illogical and unsupportable to assert that – unlike the waters in Region 2 – the waters in Region 5 are not suitable for listing.

With respect to Regions 8 and 9, the National Marine Fisheries Service recommended the listing of Huntington Harbor and Agua Hedionda Lagoon as impaired by the invasive species *Caulerpa taxifolia*. Rod McInnis, Acting Regional Administrator of NMFS's Southwest Region, submitted comments dated June 5, 2002 in which he documented the existence of *Caulerpa* in the water bodies, the devastating ecological effects of the invasions, and the impairment of beneficial uses such as marine habitat and commercial and sport fishing. TOC's comments submitted November 22, 2002 supported the listing of these water bodies, noting that the danger posed by the *Caulerpa* infestation was so severe that the areas were tarped off and injected with chlorine, killing all aquatic life – except, possibly, not all of the algae. Whatever reason EPA might have for desiring to avoid its responsibility under the Clean Water Act for controlling invasive species pollution, it cannot willfully ignore the clearly-described adverse impacts *Caulerpa taxilfolia* has caused in Huntington Harbor and Agua Hedionda Lagoon.

Finally, as noted above, EPA not only argued – incorrectly – that commenters failed to demonstrate impairment for these water bodies, EPA also argued incorrectly that such a demonstration was impossible. This position is blatantly inconsistent with EPA's approval of numerous 303(d) listings due to impairment by invasive species to date. The State Water Resources Control Board has already listed – and EPA has already approved – the listing of Carquinez Strait, Richardson Bay, Central San Francisco Bay, Lower San Francisco Bay, South San Francisco Bay, San Pablo Bay, Suisun Bay, and the Sacramento-San Joaquin Delta in Region 2 as impaired by invasive species and a high priority for TMDL development. Indeed, the EPA expressed strong support for the State's efforts at developing TMDLs for invasive species.[13] Also, as mentioned in our prior comments, a number of other states – including Iowa, North Dakota, Idaho, and Oklahoma – have 303(d) lists that include water bodies impaired by invasive species,[14] and over 800 water bodies across the United States are listed as impaired because of "noxious aquatic plants," many of which are invasive.

In sum, the Delta Estuary and Sacramento-San Joaquin Rivers, Huntington Harbor, and Agua Hedionda Lagoon should be included on California's 303(d) list as impaired by invasive species. Impairment of the beneficial uses of these water bodies by invasive species has been

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[13] Letter from Alexis Strauss, Associate Regional Administrator, U.S. EPA Region IX to Walt Pettit, Executive Director, SWRCB (November 3, 1998) ("The Regional Board is also developing TMDLs for exotic species in San Francisco Bay. Through development of these TMDLs, the Regional Board is expected to develop a much more sophisticated understanding of Bay hydrodynamics, pollutant loadings from land and air sources, and toxics bioaccumulation . . . .").

[14] *See, e.g.*, U.S. Environmental Protection Agency – Office of Wetlands, Oceans and Watersheds, *Aquatic Nuisance Species in Ballast Water Discharges: Issues and Options* (September 10, 2001).

amply demonstrated in the record. Furthermore, invasive species are pollutants, and the listing of water bodies as impaired by these biological pollutants is consistent with the law and EPA's own policy.

* * * * *

Thank you for the opportunity to provide these comments. Please do not hesitate to contact me if you have any questions.

Sincerely,

Linda Sheehan
Director, Pacific Regional Office

cc: Wayne Nastri, Regional Administrator, U.S. EPA Region IX
Alexis Strauss, Associate Regional Administrator, U.S. EPA Region IX
Arthur G. Baggett, Jr., Chair, State Water Resources Control Board
Celeste Cantu, Executive Director, State Water Resources Control Board

enclosures

Tri-TAC
Jointly Sponsored by:
League of California Cities
California Association of Sanitation Agencies
California Water Environment Association

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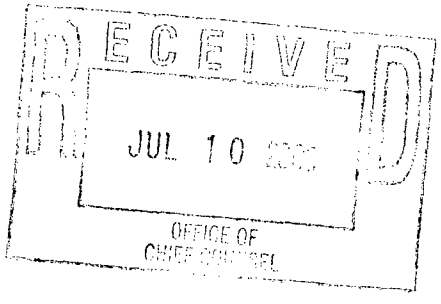
July 8, 2003

Via Electronic and U.S. Mail



Mr. David W. Smith, TMDL Team Leader
Water Division
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105

Dear Mr. Smith:

Comments on Partial Approval and Partial Disapproval of
California's 2002 303(d) List (68 FR 33693)

On behalf of the California Association of Sanitation Agencies (CASA) and Tri-TAC, I am pleased to submit comments on EPA's recent proposed action on California's 2002 303(d) list. CASA and Tri-TAC are statewide organizations comprised of members from public agencies and other professionals responsible for wastewater treatment. Tri-TAC is jointly sponsored by CASA, the California Water Environment Association, and the League of California Cities. The constituency base for CASA and Tri-TAC collects, treats and reclaims more than two billion gallons of wastewater each day and serves most of the sewered population of California.

CASA and Tri-TAC have followed closely the development of the 2002 303(d) list, and have submitted comments during State Water Resources Control Board (SWRCB) development of the list (*see, e.g.,* Letters from CASA & Tri-TAC to Arthur G. Baggett, Jr. dated May 17, 2002 and November 1, 2002). We are pleased that many of our prior comments have been addressed. We support EPA's approval of the State's development of a Monitoring List, a list of waters for which Total Maximum Daily Loads (TMDL) have been completed, and an Enforceable Programs list, in addition to a list of water quality-limited segments. We believe that the separate non-303(d) lists – which do not trigger the

requirement that a TMDL be developed but still have an important function in tracking various waterbodies – are sound from both a policy perspective and a legal perspective. As EPA notes in the Staff Report, these lists are also consistent with EPA guidance issued in 2001 (*see* EPA Office of Water, Memorandum regarding "2002 Integrated Water Quality Monitoring and Assessment Report Guidance," November 19, 2001).

While we support the general structure and approach to listing decisions developed by the State and approved by EPA, we are concerned about certain of the proposed new listings by EPA, pursuant to EPA's proposed disapproval of California's decision not to list certain waters. As you know, the State's decision on the composition of the State's 303(d) List is among the most important water quality regulatory issues facing California today. This list determines where TMDLs will be developed, and thus where California's limited water quality resources will be directed over the next several years. Under the SWRCB's current practice, whether a water body is included on the List also affects NPDES permitting during the interim period between listing and TMDL development. In light of the consequences of listing, we believe it is critically important that the 303(d) List include only those water quality limited segments for which TMDLs are required. Our concerns center on situations in which EPA is substituting its judgment – and listing criteria -- for that of the State, which we believe has broad discretion in listing decisions. Our specific comments on EPA's proposed additions to the list follow.

Humboldt Bay (PCBs), Laguna de Santa Rosa (total phosphorus), Calleguas Creek Reach 4 (Boron, Sulfate, TDS), Anaheim Bay (dieldrin, PCBs), Huntington Harbor (dieldrin, PCBs)

CASA and Tri-TAC have long been concerned about the use of informal advisory criteria used to interpret narrative objectives as the basis for listing decisions. If adopted water quality objectives are not providing adequate use protection, those objectives should be revisited through the standard-setting process. The Clean Water Act and Porter-Cologne Water Quality Control Act include requirements that serve important purposes in establishing water quality objectives. Most notably, Water Code Section 13241 requires that a Regional Board consider specified factors in establishing water quality objectives. Listing waters based on a non regulatory advisory criterion and proceeding with TMDL development constitutes an "end-run" around the statutorily mandated standard setting process.

EPA regulations require States to "provide information identifying the method by which the State intends to regulate point source discharges of toxic pollutants on water quality limited segments based on such narrative criteria. Such information may be included as part of the standards or may be included in documents generated by the State in response to the Water Quality Planning and Management Regulations (40 CFR part 35)." 40 CFR §131.11(a)(2) This information is sometimes referred to as a "narrative translator." To our knowledge, neither the State, nor EPA acting in place of the State pursuant to 40 CFR §131.22, have adopted legally valid water quality objectives for the substances for which these waters are proposed to be listed pursuant to the California Water Code, nor have the State or EPA adopted legally valid narrative translators (for toxic pollutants) with respect to the criteria being applied for listing in these cases. Prior to adoption of valid water quality standards and narrative translator mechanisms, it is invalid for EPA to list waters based on these informal criteria. Indeed, EPA has acknowledged this in other contexts. (*See* letter from Alexis Strauss, EPA Region IX, to Celeste Cantu, SWRCB, dated February 15, 2002,)

Humboldt Bay (PCBs), San Antonio Creek (Boron), Bolsa Chica (Copper and Nickel), Anaheim Bay (Copper, Nickel, Dieldrin, and PCBs), Huntington Harbor (Copper, Nickel, Dieldrin, and PCBs)

CASA and Tri-TAC question the validity of these proposed listings, which are all based on datasets of fewer than 10 samples. Although the State did not establish a set minimum number of samples, nor do EPA's regulations specify the number of samples required, the State did indicate that it generally looked for a minimum of 10 samples. (SWRCB Staff Report at 7.) The State also provided a detailed explanation of its approach to this issue in its Response to Comments, which explained how the State evaluated the amount and quality of the data, including the variability of the pollutant and reliability of the data. (SWRCB Response to Comments, January 2003 (Comment G.11.23).) In the absence of a clear regulatory guideline, we do not believe it is appropriate for EPA to "second-guess" the State's decisions about the amount or adequacy of the data.[1]

[1] If EPA engages in this practice for listing decisions, fairness requires that the Agency re-evaluate all existing listings to determine if sufficient valid data were available to support the original listings. If such a review were performed, we are confident it would show that some listings that EPA is not disapproving lack a valid basis. EPA's approach appears to be to add waters/pollutants to the State's list, but never to remove any listings, regardless of their validity.

Moreover, since EPA itself is establishing these listings, it is appropriate to examine EPA's listing guidance. In the September 1997 Guidelines for Preparation of the Comprehensive State Water Quality Assessments (305(b) Reports) and Electronic Updates, EPA stated that for toxicants such as priority pollutants, metals, chlorine and ammonia, the assessment guidelines assume that at least 10 samples are available over a 3-year period. EPA recommends that if fewer than 10 samples are available, States should consider other factors such as the magnitude of the exceedance and variability of the contaminant. Factors such as temporal and spatial variability also ought to be considered. It is not clear that, in these instances in which fewer than 10 samples were available, EPA considered any such factors.

Humboldt Bay (PCBs), Lake Merced (Dissolved Oxygen, pH), Chumash Creek (Dissolved Oxygen), Llagas Creek (Dissolved Oxygen), Los Osos Creek (Dissolved Oxygen), Orcutt Solomon Creek (Boron), San Antonio Creek (Boron), Bolsa Chica (Copper, Nickel), Anaheim Bay (Copper, Nickel, Dieldrin, PCBs), Huntington Harbor (Copper, Nickel, Dieldrin, PCBs)

For each of these proposed listings, EPA states in the Staff Report that there is "no current evidence of beneficial use impairments associated with this pollutant." Proceeding to list these waters without regard to this fact is inconsistent with the Clean Water Act (CWA). Section 303(d)(1)(A) states, in pertinent part, "[e]ach State shall identify those waters within its boundaries for which the effluent limitations required by section 1311(b)(1)(A) and section 1311(b)(1)(B) of this title are not stringent enough to implement any *water quality standard* applicable to such waters." (emphasis added) In turn, the term "water quality standard" is defined by Section 303(c)(2) of the CWA as consisting of "the designated uses of the navigable waters involved *and* the water quality criteria for such waters based upon such uses." (emphasis added)

Thus, the Act clearly states that a water quality standard consists of the combination of a beneficial use and the criteria to protect that use. EPA has instead applied these two interrelated components separately, as if each component had meaning independent of the other. Because EPA has made a finding that there is no evidence of beneficial use impairments associated with the specified pollutants, the proposed listings should more

appropriately be placed on the Monitoring List so that further investigations can be conducted to determine if there is indeed an impairment, or alternatively, whether the criteria/objective has been set at the level to appropriate for protecting the use. If the latter is not the case,

this situation should be addressed during the Triennial Review process, rather than adding another waterbody/pollutant combination to the 303(d) list, which triggers the mandatory duty to establish what may be a completely unnecessary TMDL.

San Gabriel River Reaches 1 and 3 (Toxicity), Coyote Creek (Toxicity)

We appreciate that EPA concurred with the State's decision to remove listings for ammonia for these waterbodies due to the presence of an enforceable program. We disagree, however, with the proposed re-listing of these waters for toxicity. Simply put, toxicity is a *condition* caused by a chemical, not a "pollutant."[2] As such, these listings should be for the pollutants causing the toxic effects, not for the toxicity itself, for which there is no rational way to develop a TMDL.[3] We recommend that these waters be placed on the Monitoring List, and, if specific toxicants are identified as a result of further investigations, those pollutants can be added to the 303(d) list during a future listing cycle.

In summary, development of the 303(d) List is primarily a State function, and in most respects, the State of California has conducted a fairly comprehensive and thoughtful evaluation of the waterbodies of the State. The SWRCB used relatively consistent criteria to make decisions about placing waterbodies in various categories, including whether to place a waterbody on the 303(d) List, triggering the development of a TMDL. We urge EPA to reevaluate the bases for these proposed listings and to give greater consideration to the technical and policy judgments made by the SWRCB after a lengthy and very public process.

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[2] The CWA directs States to establish TMDLs for the waters identified in paragraph (1)(A) of section 303(d) "for those pollutants which the Administrator identifies under section 1314(a)(2) of this title as suitable for such calculation." 33 U.S.C. 1313(d)(1)(C) The term "pollutant" as defined in Section 502 of the CWA does not appear to include toxicity. Further, federal regulations define whole effluent toxicity as "the aggregate toxic *effect* of an effluent measured directly by a toxicity test." (emphasis added) 40 CFR §122.2.

[3] As noted in footnote 2, per Section 303(d)(1)(C), the Administrator must have identified the pollutant as suitable for calculation of a TMDL. If EPA persists in listing these waters for toxicity, we request that EPA demonstrate that toxicity is in fact a pollutant suitable for calculation of a TMDIL

Thank you very much for the opportunity to comment on this proposed action.

Sincerely,

Roberta L. Larson, Director
Legal and Regulatory Affairs
CASA

David R. Williams
Chair
Tri-TAC

cc: Arthur G. Baggett, Jr., Chair, SWRCB
Tom Howard, Deputy Executive Director, SWRCB
Craig J. Wilson, Division of Water Quality, SWRCB
Monica Oakley, Tri-TAC Water Committee Co-Chair
Traci Minamide, Tri-TAC Water Committee Co-Chair

July 8, 2003

David Smith, TMDL Team Leader
U.S. EPA Region IX
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By e-mail: smith.davidw@epa.gov

***Subject*: California Clean Water Act 303(d) List of Water Quality Limited Segments**

Dear Mr. Smith:

The San Francisco Public Utilities Commission, California Trout and the City of Daly City request that the EPA not transfer Lake Merced from the Monitoring List to the 303(d) list.

The State placed Lake Merced on the Monitoring List based on data showing dissolved oxygen (DO) levels and pH outside of the ranges specified in the Basin Plan. However, the lake does continue to support a warm-water fishery and low DO at depth and pH excursions are characteristics of many lakes due to density stratification. There have been no documented impairments of beneficial uses (e.g., fish kills, etc.). Lake Merced is a shallow, extremely productive, nutrient-rich lake. In such a water body, seasonal stratification and oxygen depletion occur naturally.

The City of San Francisco, in conjunction with its partners, is currently pursuing the rehabilitation of Lake Merced in which water levels have been declining for years. As discussed below, we strongly disagree with the listing of this lake because of the inappropriateness of the listing and the possible adverse impact on the rehabilitation efforts.

Listed waters are managed differently than non-listed waters; in particular, the addition of any amount of a pollutant contributing to the listing may be prohibited. Ironically, this would likely prevent pilot testing of management options that the City and its partners are evaluating to improve the lake. These options include the addition of treated stormwater or reclaimed wastewater. The addition to these inflows could improve the lake by raising the water level and also increasing the surface area. Assuming, of course, that the levels of biological oxygen demand (BOD) are controlled, the additional inflow should improve the DO profile of the lake. We have recently received a grant from the California State Coastal Commission to conduct a comprehensive fish community study.

Specifically, Daly City and the PUC are planning a pilot addition of treated storm water to Lake Merced this coming winter to evaluate the effectiveness of additional polishing using wetlands treatment. The listing of Lake Merced could make this water addition pilot project infeasible.

To facilitate our rehabilitation of the lake, we respectfully request that EPA not transfer Lake Merced from the Monitoring List to the 303(d) list. If you have any questions please contact Michael Carlin at (415) 934-5787.

Very truly yours,

Michael P. Carlin,
Planning Bureau Manager
San Francisco Public Utilities Commission

Mondy Lariz
California Trout
Lake Merced Program Manager

Patrick Sweetland,
Director, Department of Water and Wastewater Resources
City of Daly City

cc: Patricia E. Martel, General Manager, SFPUC
Loretta Barsamian, Executive Officer, SFBRWQCB
Craig J. Wilson, Chief, Monitoring and TMDL Listing Unit, SWRCB

WATER RECLAMATION
SOLID WASTE MANAGEMENT

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JAMES F. STAHL
Chief Engineer and General Manager

July 8, 2003
File No: 31-370.40.4A

Via electronic mail, facsimile, and U.S. Mail

Mr. David Smith, TMDL Team Leader
Water Division
U.S. Environmental Protection Agency, Region IX
75 Hawthorne St.
San Francisco, CA 94105

Dear Mr. Smith:

Comments on EPA Region IX's Partial Approval/Disapproval of the 2002 Revision of the Clean Water Act Section 303(d) List of Water Quality Limited Segments in California

The County Sanitation Districts of Los Angeles County (Districts) are providing you with comments regarding the U.S. EPA Region IX (EPA) partial approval/disapproval of the California State Water Resources Control Board's (State Board or SWRCB) proposed 2002 Update of the Clean Water Act Section 303(d) List of Water Quality Limited Segments (303(d) List). Specifically, the Districts would like to address EPA's addition of toxicity listings for the San Gabriel River Reaches 1 and 3, and Coyote Creek, to the 2002 303(d) list.

First, the Districts support EPA's approval to de-list ammonia for Coyote Creek, San Gabriel River Estuary, San Gabriel River Reaches 1 and 2, San Jose Creek Reaches 1 and 2, Santa Clara River Reaches 7 and 8 and Rio Hondo Reaches 1 and 2. As EPA is aware, the Districts provided a large amount of data and information to the SWRCB during the 2002 listing process, supporting placement of these water bodies on the Enforceable Program List. Because the conversion of Districts' facilities to Nitrification/Denitrification mode will address ammonia impairments for these water bodies, and water quality objectives are expected to be attained in the near future (i.e., prior to the next list update) as the result of compliance provisions contained in current NPDES permits for seven of the Districts' water reclamation plants (WRPs), placement of these listings on the Enforceable Program List is entirely appropriate, and is legally valid in accordance with EPA's regulations and listing guidance. *See* 40 CFR §130.7(b)(1); Memorandum from Robert H. Wayland III regarding 2002 Integrated Water Quality Monitoring and Assessment Report Guidance, November 19, 2001 at 6.

With respect to the proposed toxicity listings, the Districts question the legality of these proposed listings. Toxicity is an effect caused by pollutants, and not a "pollutant" for which waste load allocations can be developed. *See for instance* 40 CFR §122.2("*whole effluent toxicity* means the aggregate toxic effect of an effluent measured directly by a toxicity test"). EPA should remove these listings from the 303(d) list because these listings rely upon the Basin Plan's narrative toxicity objective without complying with the objective's implementation procedures prior to the determination of impairment. *See* Los Angeles Region Basin Plan (1994) at pp. 3-16 to 3-17. Furthermore, in accordance with Clean Water Act Section 303(d)(1)(C), the Administrator must have identified the pollutant as suitable for calculation of a TMDL. If EPA does intend to list these waters for toxicity, EPA must first demonstrate that toxicity is in fact a pollutant suitable for calculation of a TMDL.

If EPA does proceed with these listings, the Districts support EPA's recommendation to re-evaluate the toxicity listings in the near future. In the Staff Report, EPA states "It would be appropriate to reevaluate ambient receiving water toxicity following implementation of the treatment plant upgrades later in 2003 to determine whether these segments exhibit continued toxicity." EPA's Review of California's 2002 Section 303d Water body List, Enclosure to letter from Alexis Strauss, EPA Region 9 to Celeste Cantu, SWRCB (hereinafter, Staff Report), pg. 12. We agree that it is important to re-evaluate the toxicity listings to determine if toxicity is a persistent

condition in the listed reaches. Towards this end, the Districts are currently working collaboratively with EPA staff to develop a sampling plan to characterize the nature of toxicity in these water bodies. However, we believe that the timeframe currently proposed for development of the toxicity TMDLs for the listed reaches is unrealistic. Under the Consent Decree, EPA is required to develop the toxicity TMDLs for Coyote Creek and the San Gabriel River by March 2004. The Districts recommend that EPA investigate the options for amending the schedule for development of TMDLs for these listings in order to ensure that a reasonable amount of time is allowed to determine the consistency of the toxic condition, the pollutant or pollutants causing the toxicity, the sources of the identified pollutants, and potential means of controlling the sources.

Additionally, the Districts disagree with a statement regarding enforceable programs that EPA made in the Staff Report, and would like to clarify the issue in question. EPA says on page 12 that "EPA notes that the numeric effluent limitations for toxicity in the permits for the Long Beach and Los Coyotes water reclamation plants that discharge to the Coyote Creek and San Gabriel River are currently being appealed before the State Water Resources Control Board; therefore, it is uncertain whether enforceable controls will continue be (*sic*) in place for toxicity in the future for these facilities." The enforceable controls applicable to the toxicity listings for Coyote Creek and the San Gabriel River being relied on by the State Water Resources Control Board were related to the permit provisions for compliance with the Basin Plan ammonia objectives. *See* SWRCB 303(d) List Draft Staff Report, January 2003, Vol. II at 4-86, 4-194, 4-196, 4-207, 4-209, 4-213, 4-219, and 4-221. The conversion of the Districts' five water reclamation plants discharging in the San Gabriel River watershed to Nitrification/Denitrification mode is expected to greatly reduce the ammonia concentrations in the receiving waters and virtually eliminate ammonia as a source of toxicity. Since the enforceable controls in place to address ammonia were also anticipated to address toxicity due to ammonia, the numeric toxicity limits being appealed have no bearing on the toxicity listings. Enforceable controls (i.e. numeric effluent limitations) imposed to ensure attainment of the Basin Plan ammonia objectives will remain in place in the permits for the Long Beach and Los Coyotes WRPs. Furthermore, notwithstanding the possible removal of the numeric chronic toxicity limits from the permits, the permits will continue to contain numerous enforceable toxicity requirements (see Attachment A).

The Districts appreciate the opportunity to provide comments to EPA regarding the 2002 Update of the 303(d) list. If you have any questions regarding our comments, please contact the undersigned or Heather Lamberson at (562) 699-7411.

Very truly yours,

James F. Stahl

Victoria O. Conway

Victoria O. Conway
Head, Monitoring Section
Technical Services Department

VOC:HL:

cc: Craig J. Wilson, SWRCB
Jon Bishop, Los Angeles-RWQCB

ATTACHMENT A

Long Beach and Los Coyotes Water Reclamation Plants
Permit Toxicity Requirements

Section 1.A. Effluent Limitations

10. Chronic Toxicity Limitation and Requirements
    a. chronic toxicity of the effluent shall be expressed in toxic units
    b. (numeric chronic toxicity limit → proposed to be deleted by State Water Resources Control Board)
    c. If the chronic toxicity of effluent exceeds the monthly median of 1.0 TU_C, the Discharger shall immediately implement accelerated chronic toxicity testing according to MRP No. 5662, Section IV.D.3.b. If any three out of the initial test and the six accelerated tests results exceed 1.0 TU_C, the Discharger shall initiate a TIE and implement the Initial Investigation TRE Workplan, as specified in the following section of this Order (Section 1.A.11).

11. Preparation of an Initial Investigation TRE Workplan

    The Discharger shall prepare and submit a copy of the Discharger's initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Board for approval within 90 days of the effective date of this permit. If the Regional Board Executive Officer does not disapprove the workplan within 60 days, the workplan shall become effective. The Discharger shall use USEPA manuals EPA/600/2-88-070 (industrial) or EPA/833B-99/002 (municipal) as guidance. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:

    i. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency;

    ii. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the facility; and,

    iii. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIE (i.e., an in-house expert or an outside contractor). See MRP Section VI.D.3.c.iii for guidance manuals.

Section 1.B. Receiving Water Limitations

6. The wastes shall not produce concentrations of toxic substances in the receiving water that are toxic to or cause detrimental physiological responses in human, animal, or aquatic life.

8. The concentrations of toxic pollutants in the water column, sediments, or biota shall not adversely affect beneficial uses as a result of the wastes discharged.

Section 1.C. Chronic Toxicity Receiving Water Quality Objective

1. There shall be no chronic toxicity in ambient waters as a result of wastes discharged.

Attachment N: Standard Provisions

A. General Requirements

2. Wastes discharged shall not contain any substances in concentrations toxic to human, animal, plant, or aquatic life.

VI. REOPENERS AND MODIFICATIONS

G. This Order may be reopened and modified to revise the toxicity language once that language becomes standardized.

H. This Order may also be reopened and modified, revoked, and reissued or terminated in accordance with the provisions of 40CFR sections 122.44, 122.62, to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this order and permit, endangerment to human health or the environment resulting from the permitted activity.

Note: The Monitoring and Reporting Program contains additional specific requirements for whole effluent toxicity testing.

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WATER
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CLEAN WATER

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

PLANNING BUREAU

1145 Market Street – Suite 401 - San Francisco, CA 94103• Tel. (415) 934-5700 • Fax (415) 934-5750

July 14, 2003

Bill Johnson, Environmental Scientist
Richard Looker, Water Resources Control Engineer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
by e-mail: bjj@rb2.swrcb.ca.gov; rel@rb2.swrcb.ca.gov

Subject: Mercury TMDL for San Francisco Bay

Dear Messrs. Johnson and Looker:

The San Francisco Public Utilities Commission (SFPUC) appreciates the opportunity to comment on the TMDL Project Report for mercury in San Francisco Bay. We also appreciate the amount and quality of work on this TMDL by the Regional Board, as well as the public outreach efforts.

Our primary concern is that the TMDL correctly describe and incorporate a credit for San Francisco's removal of mercury from stormwater. As you may know, San Francisco has a combined sewer system. This system and associated treatment facilities capture and provide treatment for all of the domestic and industrial wastewater, and virtually all of the stormwater runoff in the City. The recently completed Master Plan under which these facilities were built cost nearly $1.5 billion. Approximately $1 billion of this was needed for the stormwater component of the program. As a result, approximately two thirds of the wet weather flows are treated to secondary treatment standards. The remaining wet weather flows receive either primary treatment or flow-through treatment within the storage transports.

Mercury deposition, and subsequent runoff to the Bay, is a significant source. The San Francisco Estuary Institute report - *San Francisco Bay Atmospheric Deposition Pilot Study* – concluded: "Comparing to other sources and pathways, loading of mercury from atmospheric deposition (combine direct and indirect routes) contributes almost seven (7) times as much as the loading from wastewater discharges." (July 2001)

The result of San Francisco's treatment of stormwater is that an estimated 60% of the solids in the stormwater are removed from the waste stream (measured as total suspended solids). In water, mercury has a strong affinity to particulates, which tends to remove it from the water column to the sediment. If we assume that most of the mercury in the stormwater runoff is associated with particulates, then stormwater treatment should provide major benefits.

Unfortunately, the Report appears to assume that San Francisco is similar to other Bay region urban areas with separate sewer systems providing no treatment. Specifically,

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San Francisco is assumed to have 10.71 percent of the Bay area population and is therefore assigned a stormwater allocation of 8.8 kg/year of mercury. This represents a stormwater load reduction requirement of 8.1 kg/year assigned to San Francisco.

However, San Francisco, at significant costs, provides treatment to stormwater and thereby reduces the loading of mercury to the Bay. We believe the mercury TMDL should take this into account during the allocation process and relieve San Francisco from mercury reduction obligations that are required of urban areas that do not provide comparable treatment to stormwater.

We would also like to point out that San Francisco will continue with its pollution prevention efforts. San Francisco has a very proactive mercury reduction program and was the first in the Bay area to initiate an effort to remove mercury thermometers and control mercury in other products, including paint.

Our second comment concerns compliance issues for point source dischargers. At the meeting, held July 2, the speakers indicated that the Bay would not attain mercury target levels for approximately 120 years. The Clean Water Act regulations require that a TMDL demonstrate compliance with standards before any modifications can be made to water quality-based effluent limits (WQBELs). We request that the TMDL explain clearly how completion of the TMDL will provide relief from the currently proposed final mercury concentration limitations in POTW permits. The operators of many POTWs believe these final limits are not attainable using the existing treatment facilities.

We appreciate your attention to these comments. If you have any questions please do not hesitate to contact me at (415) 934-5787.

Very truly yours,

Michael P. Carlin, Planning Bureau Manager

c.c. Patricia E. Martel, General Manager, SFPUC
Loretta Barsamian, Executive Officer, SFBRWQCB
Craig J. Wilson, Chief, Monitoring and TMDL Listing Unit, SWRCB
William Keaney, Water Pollution Control Bureau Manager, SFPUC
James Salerno, Environmental Services Manager, SFPUC
Arleen Navarret, Senior Supervising Biologist, SFPUC
John Roddy, Deputy City Attorney, City and County of San Francisco

July 25, 2003

Ms. Celeste Cantú
Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 94912-0100

Dear Ms. Cantú:

On June 5, 2003, EPA partially approved and partially disapproved California's 2002 §303(d) list. Specifically, EPA approved the State=s decision to list the 679 waters and associated pollutants identified at Tab 1 of the California listing report along with the State=s priority rankings for these waters and pollutants. EPA disapproved the State=s decision not to list 5 additional water bodies and additional pollutants for 15 waters already listed by the State. EPA further identified these additional water bodies and pollutants with appropriate priority rankings for inclusion on the 2002 §303(d) list.

EPA provided public notice and solicited public comment on its identification of additional waters and pollutants for inclusion on California's list. The comment period closed July 8, 2003. EPA has carefully reviewed the 20 written comments received from the State and other commenters, most of which focused on the Laguna de Santa Rosa. We concluded that none of the comments warrants modifying the list of additional waters and pollutants identified by EPA.

Pursuant to the requirements of federal regulations at 40 CFR 130.7, I am hereby transmitting to you the final 2002 §303(d) list for California which includes the additional waters and additional pollutants for several waters already listed by the State, in addition to the waters listed by the State.[1] The additional waters and pollutants included on the final list are listed in Enclosure 1 to this letter. A detailed responsiveness summary explaining public comments received and EPA's responses is also enclosed (Enclosure 2).

We look forward to working with the State during the 2004 listing process. If you have questions on any aspect of this final listing decision, feel free to give me a call at (415) 972-3435 or call David Smith of my staff at (415) 972-3416.

Sincerely,

/original signed by Catherine Kuhlman/

Alexis Strauss
Director
Water Division

Enclosures

[1] As explained in my letter to you dated June 18, 2003, EPA is deferring final action on the State's listing decision concerning South San Francisco Bay copper and nickel. EPA expects to approve the State's decision not to include copper and nickel on the §303(d) list following final depromulgation of the federal criteria for these pollutants, which is expected in the near future.

Enclosure 1: Waters added to 303(d) list for California

Description of Table Columns:
AWater Body@ column identifies the water bodies on the 303(d) list.
APollutants@ column identifies the specific pollutants for which the water bodies were found to exceed water quality standards.
ABasis for Listing@ column identifies the basis for individual listing decisions.
APriority Ranking@ column indicates the priority ranking for TMDL development associated with an individual listing decision (H = High; M = Medium; L = Low priority)

Water Body (Regional Board)	Pollutants	Water already listed by State for other pollutants?	Priority Ranking
Humboldt Bay (1)	PCBs	N	L
Laguna de Santa Rosa (1)	total nitrogen and total phosphorus	Y	L
Lake Merced (2)	dissolved oxygen and pH	N	L
Lake Merritt (2)	dissolved oxygen	Y	L
San Francisco Bay segments: Sacramento/San Joaquin Delta Lower San Francisco Bay San Pablo Bay Suisun Bay (2)	nickel	Y	L
Chumash Creek (3)	dissolved oxygen	Y	L
Llagas Creek (3)	dissolved oxygen	Y	L
Los Osos Creek (3)	dissolved oxygen	Y	L
Orcutt Solomon Creek (3)	boron	Y	L
San Antonio Creek (3)	boron	Y	L
Calleguas Creek Reach 4 (4)	boron, sulfate, total dissolved solids	Y	M
San Gabriel River Reach 1 San Gabriel River Reach 3 Coyote Creek (4)	toxicity	Reach 1- Y Reach 3- N Coyote- Y	M
Bolsa Chica (8)	copper and nickel	N	L
Anaheim Bay (8)	copper, nickel, dieldrin, and PCBs	N	L
Huntington Harbour (8)	copper, nickel, dieldrin, and PCBs	Y	L

Enclosure 2:
Responsiveness Summary
EPA Decision Concerning California's 2002 CWA Section 303(d) List

Introduction

EPA partially approved and partially disapproved California's Section 303(d) list on June 5, 2003. EPA published a public notice of availability of its listing decision in the Federal Register on June 5, 2003 (68 FR p. 33693). EPA invited public comment on its decisions to disapprove California's decisions not to list certain waters and pollutants and identify these waters and pollutants for inclusion on California's list. EPA did not invite comment on its decisions to approve the State's decision to list waters and pollutants identified in the State listing submittal. EPA also posted the notice of availability and decision documents on its Region 9 web site. Decision documents were also available upon request to staff at Region 9.

EPA received comments from 20 parties in response to the public notice. Written comments were received from the following parties concerning the issues identified in parentheses:

1. City of Santa Rosa (Laguna de Santa Rosa)
2. State Water Resources Control Board (Laguna de Santa Rosa)
3. Brenda Adelman (Laguna de Santa Rosa)
4. WaterKeepers Northern California (multiple issues)
5. Campbell Timberland Management (North Coast temperature)
6. Ann Hernday (Laguna de Santa Rosa)
7. Jenny Blaker (Laguna de Santa Rosa)
8. Wendy Krupnick (Laguna de Santa Rosa)
9. Western Sonoma County Rural Alliance (Laguna de Santa Rosa)
10. Diane McColley (Laguna de Santa Rosa)
11. Western States Petroleum Association (multiple issues)
12. Russian Riverkeeper (Laguna de Santa Rosa)
13. Lynn Newton (Laguna de Santa Rosa)
14. San Francisco Public Utilities Commission (Lake Merced)
15. California Association of Sanitation Agencies and Tri-TAC (multiple issues)
16. The Ocean Conservancy (multiple issues)
17. California Forestry Association (North Coast temperature)
18. Sanitation Districts of Los Angeles County (San Gabriel River basin)
19. Russian River Watershed Council- Environmental Caucus (Laguna de Santa Rosa)
20. Audubon California, Mayacamas Mountains Audubon Sanctuary (Laguna de Santa Rosa)

This responsiveness summary contains summaries of comments received and EPA's responses to these comments. Because similar comments were made by many commenters, the responsiveness summary groups the comments and provides summary responses. Cross-cutting,

general comments are addressed first, followed by comments concerning specific water body listings.

EPA is making no changes in its listing decisions based on comments received during the comment period. The final list being transmitted to California contains each of the waters and pollutants identified for listing by EPA on June 5, 2003.

General Comments and Responses

21. EPA should not approve California's list because:
    - **the State failed to include invasive species as required,**
    - **the State illegally removed waters from prior 303(d) lists**
    - **the State failed to list San Francisco Bay for copper,**
    - **the State improperly lowered the priority ranking for San Francisco Bay dioxin TMDL development,**
    - **the State failed to list several Central Valley waters for temperature,**
    - **the State failed to list Smith Canal for PCBs**
    - **the State's placement of waters on alternative lists is contrary to Clean Water Act requirements,**
    - **the State delisted portions of waters by redefining their sizes without providing adequate opportunities for public review and comment**
    - **the State improperly listed several North Coast rivers due to temperature impairment.**

Response: The comments address EPA's June 5, 2003 decision to partially approve California's listing submissions. EPA's partial approval decision was final on June 5, 2003, 2002, and we were not inviting public comment concerning that decision because the State had already provided opportunities for public review and comment on its listing decisions. EPA was inviting comment only on its decisions to disapprove California's failure to list specific waters and pollutants, and to identify those additional waters and pollutants for inclusion on the final 2002 Section 303(d) list. No response to the comments concerning the specific State listing decisions of concern to the commenters is necessary because those listing decisions were previously made and are not currently under consideration by EPA.

- **The commenters support EPA's additions to the list (comments 4 and 16).**

Response: We appreciate the comment.

- **The State's decision to include Humboldt Bay, Lake Merced, Chumash Creek, Llagas Creek, Los Osos Creek, Orcutt Solomon Creek, San Antonio Creek, Anaheim Bay, and Huntington Harbor on a monitoring list instead of the 303(d) list was reasonable and should be approved by EPA because EPA recognized the need to conduct additional monitoring of these waters prior to developing TMDLs. (comment 11)**

Response: The commenter provided no specific analysis supporting a conclusion that these waters attain applicable water quality standards for the pollutants listed by EPA. EPA's recommendation that additional monitoring is warranted prior to TMDL development was not intended to suggest that insufficient data were available to support EPA's decisions to add these waters and pollutants to the 303(d) list. To the contrary, EPA added these waters to the list because we determined that the existing and readily available data demonstrated exceedance of the applicable water quality standards. EPA notes that additional monitoring is often needed to better characterize water quality conditions prior to developing TMDLs for listed waters.

- **We support EPA's approval of the State's development of a monitoring list.**

Response: EPA took no action on the State's decision to identify waters on a monitoring list, and EPA did add to the Section 303(d) list several waters and pollutants that the State had instead included on a monitoring list.

- **EPA should not list under Section 303(d) any waters that do not clearly require TMDLs because (1) the list determines where TMDLs will be developed and resources expended over the next several years and (2) inclusion on the list affects NPDES permitting decisions during the interim period between listing and TMDL development.**

Response: EPA added only those waters and pollutants for which available data and information support a determination that applicable water quality standards are not implemented. This is consistent with Section 303(d) of the Clean Water Act and the implementing regulations, which generally require the listing of waters that exceed applicable water quality standards. As noted above, in some situations, additional data or information may be needed subsequent to listing to confirm with certainty that a TMDL is required and/or to establish the needed TMDL. We note that EPA added a very small number of waters and pollutants to the State's list (26 new listings by EPA in comparison with 1855 listings made by the State). We also note that almost all the new EPA listings are ranked as low priorities for TMDL development. We disagree that the new EPA listing decisions will have a substantial impact on the State's investments in TMDL development over the next several years.

Section 303(d) listing decisions do not directly affect any discharger's rights or responsibilities and do not directly create substantial financial or social impacts. Inclusion of a water body on the Section 303(d) list indicates that existing and readily available data and information demonstrate that the water does not meet applicable water quality standards and that a TMDL must be developed for the water body in the future (unless it is later determined that the water meets water quality standards and no longer needs to be listed, or that another required pollutant control will result in timely attainment of water quality standards (see 40 CFR 130.7(b)(1)). But the listing of a water in and of itself does not adversely impact a discharger to that water. See, *Missouri Soybean Association v. U.S. EPA*, 289 F.3d 509, 512-13 (8th Cir., 2002) (challenge to EPA's approval of State's 303(d) list dismissed as not ripe; "MSA's complaint focuses on

potential harm to its members resulting from stricter controls of the use of the challenged waters. More stringent controls on water use, however, will not occur until after TMDLs are developed and implemented. Even then, it remains uncertain whether TMDL development or regulatory implementation will adversely impact MSA's members." "We agree with the district court that until objectionable TMDLs are developed and implemented, 'MSA's claims of harm are too remote to be anything other than speculative' and are not ripe for judicial resolution.")

To the extent NPDES permits are considered for issuance in situations where a discharge to an impaired water is involved, federal regulations governing the NPDES permitting process (e.g. 40 CFR 122.4(i) and 122.44(d) establish specific requirements with regard to discharges to impaired waters. These requirements operate independent of the Section 303(d) listing status of a particular receiving water and require the permitting authority to consider a receiving water's attainment or nonattainment of water quality standards as part of the permit proceeding. The fact that a water body is listed pursuant to Section 303(d) does not supplant these regulatory requirements of the NPDES permitting process.

- **EPA should not list Humboldt Bay, Laguna de Santa Rosa, Calleguas Creek, Anaheim Bay, or Huntington Harbor based on interpretations of narrative water quality standards and application of non regulatory advisory criteria.**

Response: EPA disagrees. Federal regulations require that "For the purposes of listing waters under Section 130.7(b), the terms "water quality standard applicable to such waters" and "applicable water quality standards" refer to those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements." (40 CFR 130.7(b)(3), emphasis added). The federal regulations clearly require States to identify waters on the Section 303(d) list if any component of the applicable water quality standards, including narrative criteria are not being implemented. The Supreme Court has recognized that a water quality standard includes the water's uses that are to be protected, and not only the criteria necessary to protect the uses. See: CWA, sec. 302(c)(2)(A); *PUD No. 1 of Jefferson County v. Washington Dept. of Ecology*, 511 U.S. 700 (1994) ("Section 303 of the Clean Water Act requires ... that such standards 'consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses.'" (emphasis added)); 40 CFR 130.7(c)(1) ("TMDLs must be established at levels necessary to attain and maintain the applicable narrative and numerical water quality standards ...." (emphasis added); and EPA, Notice of Final Rule, 54 Fed. Reg. 23868, 23875, 23876, 23882 (June 2, 1989) ("State narrative water quality criteria must be attained and maintained in the same way as all water quality criteria. Narrative water quality criteria have the same force of law as other water quality criteria ...."; "Narrative water quality criteria apply to all designated uses at all flows unless specified otherwise in a state's water quality standards."; and, with respect to narrative criteria's continuing force after numeric criteria are adopted, "EPA reiterates that section 301(b)(1)(C) requires that NPDES permits contain effluent limits that achieve narrative water quality criteria. This obligation applies regardless of whether or not a state has adopted a numeric water quality criterion for a pollutant of concern." (emphasis added)).

Numeric water quality standards supplement but do not replace narrative water quality standards, particularly in cases in which designated use impairments are associated with the presence of pollutants in other water body media (e.g. aquatic sediments and fish tissue) in addition to the water column. In these cases, limiting the assessment of water quality standards attainment to the analysis of water column pollutant concentrations could result in failure to identify waters that do not attain their uses due to pollutant accumulation in sediments or fish tissue. PCBs and chlorinated pesticides, the pollutants that are the subject of several of the listings of concern to the commenter, tend to accumulate in sediments and fish tissue and are often not detected at levels that exceed numeric water quality standards for water column concentrations despite their presence in sediment and tissue at levels which cause use impairment to the aquatic life or fish consumption beneficial uses.

EPA's approval of numeric water quality standards for these pollutants does not mean that the narrative water quality standards no longer apply to them. When EPA approved these numeric standards, EPA was concluding that the combination of beneficial use designations, numeric criteria, narrative criteria, and antidegradation provisions represented in the State's water quality standards were sufficient to protect the uses of the State's waters. See, 40 CFR 131.5 and 131.6.

EPA regulations and guidance encourage States to adopt numeric water quality standards but do not state that these numeric standards would replace or supercede other aspects of a State's standards.

- **EPA's decision to list waters due to toxic pollutants in the absence of formally adopted translator mechanisms violates federal regulations at 40 CFR 131.11(a)(2), as acknowledged by EPA in other contexts.**

EPA disagrees. EPA regulations and guidance encourage States to adopt translator mechanisms to assist in implementing narrative standards but do not require the adoption of such translator mechanisms as a precondition to applying narrative standards in the Section 303(d) listing process as suggested by the commenter. EPA's decision documents explain the basis for EPA's interpretation of narrative water quality standards and EPA provided opportunities for public review of the methods used to apply the narrative standards for Section 303(d) assessments. As discussed above, federal regulations require that "For the purposes of listing waters under Section 130.7(b), the terms "water quality standard applicable to such waters"and "applicable water quality standards" refer to those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements." (40 CFR 130.7(b)(3) (emphasis added)). The federal regulations do not authorize States to decline to apply narrative standards in the Section 303(d) assessment process until translator mechanisms are adopted. Section 303(d) listing decisions do not regulate point source discharges; they simply identify waters that do not meet any applicable water quality standard and require development of TMDLs in the future.

The commenter cites a letter from EPA to the State Water Resources Control Board (February 15, 2002) as support for the assertion that EPA has acknowledged that it is invalid to list waters based on narrative criteria in the absence of adopted translators. The February 15, 2002 letter specifically states that:

> "Because the requirements of 40 CFR 131.11(a)(2) are only triggered for the regulation of point sources discharges of priority toxic pollutants on water quality limited segments, the narrative criterion would be applicable for any other purpose." (p. 4)

Because Section 303(d) listing is not an action that regulates point source discharges, EPA's application of narrative standards for this purpose is clearly consistent with EPA's February 15, 2002 letter and the requirements of 40 CFR 131.11(a)(2).

- **The commenter questions the validity of EPA's decisions to list Humboldt Bay, San Antonio Creek, Bolsa Chica, Anaheim Bay, and Huntington Harbor because it was inappropriate for EPA to "second-guess" the State's finding that insufficient data were available to support the listing assessments. Consistent with EPA's 1997 guidance, EPA should have considered the magnitude of exceedances and variability of the contaminant.**

Response: EPA concludes that it is inconsistent with federal listing requirements for the State to dismiss a water from further consideration in the Section 303(d) listing process simply because a minimum sample size threshold was not met for a particular water body. This is particularly true here, where the impairments are caused by toxic pollutants. As discussed in EPA's June 5, 2003 decision, the State did not provide specific or clear analysis to support its general assertion that insufficient data were available to support listing assessments for these waters.

The key consideration in EPA's decision to list several California waters and pollutants was the fact that for each of these waters, a very high percentage of available samples (from 67-100% of available samples depending upon the water and pollutant in question) did not meet the State's preferred screening criteria for application of its narrative water quality standards. EPA's decision to list these waters is consistent with EPA's 1997 and 2002 technical guidance documents, which recommend listing of toxic pollutants in cases where standards are exceeded more than once in any three year period. EPA concluded that the very high exceedence rates provided sufficient evidence to support the listing decisions.

EPA guidance recommends that states develop monitoring and assessment programs that enable states to base assessment determinations on larger sample sizes in order to improve the analytical rigor of listing decisions. However, EPA guidance does not recommend that states decline to assess waters for which smaller sample sizes are available. EPA guidance recognizes that it is possible to determine with reasonable certainty that water quality standards are exceeded even in cases where sample sizes are relatively small (see, e.g., EPA, 2002). The high frequency of exceedances observed for the waters added to California's Section 303(d) list clearly supports a conclusion that the exceedences are pervasive and that water quality standards are exceeded.

EPA's 1997 guidance cited by the commenter states that:

> "If fewer than 10 samples are available, the State should use discretion and consider other factors such as the number of pollutants having a single violation and the magnitude of the exceedances." (p. 3-18)

The commenter implies that this guidance recommends against identifying waters as impaired based on small sample sizes unless these other factors are considered. We believe the guidance actually recommends the opposite approach—that States should consider identifying impaired waters even if samples sizes are very small—if the limited data indicate probable exceedances. For example, the guidance contemplates that it might be appropriate in some circumstances to identify an impaired water based on a single, high magnitude exceedance. EPA judged that the number of exceedances and frequency of exceedances observed for the waters and pollutants added to California's list provided sufficient evidence that the applicable standards are not attained and that it was unnecessary to further examine magnitude of exceedances or the characteristics of these toxic pollutants.

9. Fairness requires that EPA reevaluate all existing State listings to determine if sufficient valid data were available to support the original listings. EPA's approach appears to be to add water/pollutants to the State's list but never to remove any listings, regardless of their validity.

Response: See response to comment 1.

10. Several waters should not be listed because EPA has not demonstrated that beneficial uses are impaired as required to determine that the applicable water quality standards are exceeded.

Response: Federal regulations do not require EPA to demonstrate beneficial use impairment in order to determine that a water exceeds applicable water quality standards. EPA disagrees with the inference that it would be necessary to determine both that beneficial uses are actually impaired and that narrative or numeric water quality objectives are exceeded in order to conclude that a water quality standard is not being implemented.

We would like to clarify the statements in EPA's June 5, 2003 decision document that there was no current evidence of beneficial use impairment for some waters and pollutants being listed by EPA. We meant to indicate, in the context of a priority ranking discussion, that there was no direct evidence of beneficial use impairment (e.g., information concerning fish kills, adverse ecosystem impacts, or reports of human health impacts specific to the individual waters and pollutants under discussion), and that lower priority ranking factors were warranted as a result. However, the fact that these waters exceeded numeric or narrative water quality objectives for the listed pollutants provides strong indirect evidence of potential beneficial use impacts.

11. The proposed listing decisions are inconsistent with EPA's draft 2004 Assessment Guidance. All the waters proposed for listing would fit into categories 2-4 and not into Category 5.

Response: EPA reviewed California's 2002 list based on the Clean Water Act, EPA's implementing regulations, and final applicable EPA guidance. The 2004 listing guidance was not complete when EPA reviewed the California list and is not applicable to establishment and review of the 2002 list. In any case, none of the EPA decisions to add waters and pollutants to California's 2002 Section 303(d) list are inconsistent with any provisions of the proposed (and now final) 2004 EPA Assessment Guidance cited by the commenter.

Water Body-Specific Comments

Laguna de Santa Rosa

12. The Laguna de Santa Rosa should not be listed for total phosphorus because:

- **phosphorus is not the "limiting nutrient" in the Laguna affecting dissolved oxygen levels (based on analysis of bioavailable N:P ratios),**
- **listing phosphorous would divert limited resources away from real water quality issues and would not enhance efforts to protect beneficial uses,**
- **the cause of low dissolved oxygen levels in the Laguna is not certain,**
- **more study is needed to determine whether elevated phosphorous in the Laguna is the cause of low dissolved oxygen,**
- **not listing phosphorus will not delay the development of phosphorous TMDLs if necessary,**
- **there is no evidence of excess aquatic growths in the Laguna,**
- **EPA's screening level applied to evaluate total phosphorus data should not be applied to the Laguna because it is unreliable.**
- **it would be more appropriate to derive phosphorus assessment criteria based on region-specific information.**

Response: EPA concludes that the extraordinarily high phosphorus levels in the Laguna de Santa Rosa likely contribute to dissolved oxygen and algae problems in the Laguna. EPA does not agree that the available data supports the commenters' contrary assertion. The commenters provide no analysis or supporting references or documentation to support their assertion that the nitrogen-to-phosphorus ratios measured in the Laguna prove that phosphorus does not cause or contribute to excess algae growth. The actual data analysis supporting the summary chart in the City of Santa Rosa's comments was not provided to EPA or the State in the City's comments. The commenters concede that the causes of low dissolved oxygen levels in the Laguna are poorly understood. The N:P ratio argument offered by the commenters does not appear to be based on any local studies of the actual nutrient dynamics or of limiting factors influencing dissolved oxygen levels and algae growth in the Laguna. If local studies served as the basis for the conclusions, they were not provided to support the comment conclusions. Instead, the

commenters appear to be relying upon generalized results from academic studies (that are not clearly referenced in the comments) that suggest that at low concentrations, either nitrogen or phosphorous may be the nutrient limiting the level of algal productivity in certain water body types.

EPA questions whether a nutrient ratio argument even makes conceptual sense in the case of the Laguna for several reasons. First, nutrient ratios are most useful for indicating whether blue-green algae blooms are a potential problem-- if the ratio (by weight) is below 10, then dominance by blue-green algae is increasingly likely (Gerritsen, 2003 citing Smith, 1998 and Smith et al., 1999). Blue green algae, which have cause frequent algae blooms in Laguna de Santa Rosa, are able to fix needed nitrogen from atmosphere; therefore it is unlikely that nitrogen control will be effective in eliminating such algae blooms and associated adverse impacts on dissolved oxygen levels. Second, it is not clear why a nutrient ratio argument makes sense in situations where both nitrogen and phosphorus are present at very high levels. In the Laguna, the observed nitrogen and phosphorus levels are approximately an order of magnitude higher than both the simple screening values used by EPA in its June 5, 2003 report analysis and EPA's specific nitrogen and phosphorus criteria values recommended for the nutrient ecoregion III in which the Laguna is located (see EPA, 2000). EPA notes that no commenters appear to disagree with EPA's finding that the levels of both nitrogen and phosphorus in the Laguna are extraordinarily high. Third, the nutrient ratio argument depends upon measurements of nitrogen in the water column. Because aquatic plants quickly consume available nitrogen in the water column, dissolved nitrogen levels (and nutrient ratios based on dissolved nitrogen measurements) may not provide discriminating indicators of nutrient-algae growth dynamics or the potential for algal growth (see EPA, 2003). Finally, EPA's contractor reviewed studies of nutrient effects in freshwater lakes and streams and found that all studies reviewed indicated that algal biomass in freshwater streams is controlled by either phosphorus or both nitrogen and phosphorus. No studies were found that claimed algae control by nitrogen alone (Gerritsen, 2003).

Even if the nutrient ratio argument was reliable in this case, it would not compel a finding that phosphorus does not cause or contribute to a water quality standards exceedance. Rather, the nutrient ratio argument appears to suggest that it would be more cost effective to address nutrient-related problems through nitrogen control than through phosphorous control. As discussed above, the actual levels of nitrogen and phosphorus measured in the Laguna are high enough to be associated with excessive algal growth and associated dissolved oxygen problems. It would be inappropriate to refuse to list one pollutant for which there are data and information showing it contributes to a water quality standards exceedance (dissolved oxygen in this case) based on an assertion that it is more cost effective to address that exceedance through control of a different pollutant. It may be appropriate to address the issue of the most cost effective way to address dissolved oxygen exceedances at the time the TMDL analysis is conducted.

Commenters questioned EPA's reliance on the 0.1 mg/L screening level for total phosphorus and 1.0 mg/L for total nitrogen, recommending that it would be more appropriate to base phosphorus analysis on more locally-derived data. EPA has published recommended nitrogen and phosphorus criteria based on local reference stream data for different nutrient ecoregions around

the country (EPA, 2000). Laguna de Santa Rosa is located within the "Southern and Central California Chaparral and Oak Woodlands" sub-ecoregion within the "Xeric West" aggregate ecoregion. The recommended criteria values for this sub-ecoregion are 0.03 mg/L for total phosphorus and 0.5 mg/L for total nitrogen. In addition, EPA's contractor found that several stream studies from different parts of the world have arrived at similar ranges of targets for nutrient reduction in streams to control algal biomass: total N in the range of 0.75-1.5 mg/L and total P in the range of 0.01-0.04 mg/L (Gerritsen, 2003). These values are approximately an order of magnitude lower than the values measured in the Laguna de Santa Rosa, and virtually every sample collected between 1997-2000 exceeds each of these recommended criteria values and the range of target values discussed in other stream studies. Although EPA acknowledges that there is some uncertainty as to whether these recommended criteria values would accurately discriminate between streams that are nutrient limited and those which are not, the fact that Laguna nitrogen and phosphorous levels are far above any recommended screening values strongly supports EPA's conclusion that total nitrogen and total phosphorus must be included on the Section 303(d) list for the Laguna.

EPA's experience supports the conclusion that, with respect to freshwater streams, nitrogen control alone is unlikely to result in attainment of all applicable water quality standards associated with dissolved oxygen and algae growth, especially during the periods in which algae growth is most likely to be a problem (see, for example, TMDLs for Malibu Creek, CA (EPA, 1993), Clark Fork, MT (Ingman, 1992), EPA, 1999, EPA, 2000). Excessive algae growth (especially of nitrogen-fixing algae) and associated dissolved oxygen problems will likely occur in the system even if nitrogen levels were substantially reduced. EPA notes that adoption and implementation of TMDLs for nitrogen compounds in the Laguna de Santa Rosa in 1995 was designed to address excessive algae growth and depressed dissolved oxygen levels, but has not eliminated the frequent dissolved oxygen exceedances based on review of data summarized in the comments submitted to EPA. EPA also notes that the administrative record before the State contains evidence that algae levels in the Laguna are high enough to cause or contribute to low dissolved oxygen levels, and that algae levels are more closely correlated with phosphorus levels than with nitrogen levels (Wickham and Rawson, 2000, in State Board administrative record reference # 19).

EPA disagrees that phosphorous listings would necessarily divert attention or resources from other assessment and control priorities in the Laguna basin. On the one hand, the commenters appear to assert that future planned studies designed to address the dissolved oxygen listings will necessarily address phosphorus as well as nitrogen and other potential limiting factors. On the other hand, the commenters assert with great confidence that phosphorus is not a limiting factor for algal growth or for dissolved oxygen. Therefore, it is uncertain whether future studies will actually address the role of phosphorus in Laguna algal and dissolved oxygen dynamics. EPA believes the individual nitrogen and phosphorus listings will help ensure that future studies address both nutrients.

13. Commenters support listing the Laguna de Santa Rosa for total nitrogen and phosphorus.

Response: We appreciate the comments.

San Francisco Bay Nickel

14. San Francisco Bay should not be listed for nickel because the State is in the process of revising the applicable water quality standards for nickel and the Bay will meet the revised standards.

Response: As the commenter acknowledges, the San Francisco Bay Basin Plan has a total nickel water quality objective that is the numeric water quality standard currently in effect for San Francisco Bay. No State or Federal action to revise this standard has been completed. Federal regulations require the States or EPA to apply the currently applicable water quality standards for purposes of developing the Section 303(d) list (see 40 CFR 130.7(b)(3)). The commenter does not appear to claim that the Bay currently meets the currently applicable standard and has therefore provided no valid basis for EPA to change its decision to list the specified Bay segments for nickel.

Lake Merced

15. Lake Merced should not be listed for dissolved oxygen and pH because low DO and pH excursions are characteristics of many lakes, and there are no documented impairments of beneficial uses. The listing would likely prevent management options that would improve lake water quality.

Response: As discussed in the listing decision, the State water quality standards provide no exemption from applying the DO and pH standards at all lake depths and at all times. The commenter has provided no analysis demonstrating attainment of the DO and pH standards. Regarding the comment concerning impacts of listing on management options, see the response to comment 5.

San Gabriel River Basin

16. San Gabriel River and Coyote Creek should not be listed for toxicity because toxicity is not a pollutant suitable for TMDL calculation.

Response: EPA interprets the Section 303(d) regulations to require States to list waters that are impaired due to pollutant characteristics including toxicity as well as waters impaired due to pollutants. EPA recently clarified its position by explaining that "When existing and readily available data and information (biological, chemical or physical) are sufficient to determine that a pollutant has caused, is suspected of causing, or is projected to cause the impairment, the AU should be listed [on the Section 303(d) list]" (Memorandum from Robert Wayland III to EPA

Regions and State Directors, March 26, 2002). The information in the administrative record for San Gabriel River and Coyote Creek suggests that several pollutants cause or contribute to the toxicity observed in these segments.

EPA has consistent interpreted Section 303(d) listing regulations as requiring listing of waters impaired by pollutants or characteristics of pollutants. For example, in 1978 EPA stated that "the determination of TMDLs for parameters which indicate the presence of pollutants... can be useful in certain situations and should not be excluded from consideration." (43 FR 60662, December 28, 1978). When EPA amended and clarified the existing regulation in 1992, we restated the regulatory requirement of 40CFR 130.7(b)(4) and explained that:

> "To identify water quality-limited waters that still require TMDLs, the particular pollutant causing the problem will usually be known. However, pollutants include both individual chemicals and characteristics such as nutrients, BOD, or toxicity. Moreover, many waters do not meet standards due to non-chemical problems such as siltation." (57 FR 33045 (July 24, 1992)).

Finally, the currently applicable federal regulatory definition of TMDL provides that "TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure." (40 CFR 130.2(i) (emphasis added). In recognizing that TMDLs themselves can be expressed in terms of toxicity, EPA was clearly assuming that waters can be listed under Section 303(d) for toxicity.

17. EPA did not comply with the Basin Plan implementation procedures to implement the toxicity objective.

Response: The Basin Plan implementation provisions discuss procedures for interpreting toxicity testing results to identify chronic or acute toxicity. EPA relied upon toxicity testing results conducted by the commenter and provided to the State in support of the State's listing decisions. EPA carefully reviewed these toxicity testing results and has concluded that they are consistent with Basin Plan toxicity testing protocols. Therefore, EPA disagrees that the toxicity listing decisions are inconsistent with the Basin Plan toxicity implementation provisions.

18. We agree that it is important to re-evaluate the toxicity listings in the future.

Response: We appreciate the comment.

19. The commenter disagrees with EPA's statement that it is uncertain whether enforceable toxicity controls will be in place in the future for the water reclamation plants.

Response: Until final NPDES permits for these facilities are in place that contain clearly enforceable toxicity limitations, EPA will continue to conclude that it is uncertain whether enforceable toxicity controls are in place.

Copy

Tri-TAC
Jointly Sponsored by:
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California Association of Sanitation Agencies
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July 8, 2003

Via Electronic and U.S. Mail

Mr. David W. Smith, TMDL Team Leader
Water Division
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105

Dear Mr. Smith:

Comments on Partial Approval and Partial Disapproval of
California's 2002 303(d) List (68 FR 33693)

On behalf of the California Association of Sanitation Agencies (CASA) and Tri-TAC, I am pleased to submit comments on EPA's recent proposed action on California's 2002 303(d) list. CASA and Tri-TAC are statewide organizations comprised of members from public agencies and other professionals responsible for wastewater treatment. Tri-TAC is jointly sponsored by CASA, the California Water Environment Association, and the League of California Cities. The constituency base for CASA and Tri-TAC collects, treats and reclaims more than two billion gallons of wastewater each day and serves most of the sewered population of California.

CASA and Tri-TAC have followed closely the development of the 2002 303(d) list, and have submitted comments during State Water Resources Control Board (SWRCB) development of the list (*see, e.g.,* Letters from CASA & Tri-TAC to Arthur G. Baggett, Jr. dated May 17, 2002 and November 1, 2002). We are pleased that many of our prior comments have been addressed. We support EPA's approval of the State's development of a Monitoring List, a list of waters for which Total Maximum Daily Loads (TMDL) have been completed, and an Enforceable Programs list, in addition to a list of water quality-limited segments. We believe that the separate non-303(d) lists – which do not trigger the

requirement that a TMDL be developed but still have an important function in tracking various waterbodies – are sound from both a policy perspective and a legal perspective. As EPA notes in the Staff Report, these lists are also consistent with EPA guidance issued in 2001 (*see* EPA Office of Water, Memorandum regarding "2002 Integrated Water Quality Monitoring and Assessment Report Guidance," November 19, 2001).

While we support the general structure and approach to listing decisions developed by the State and approved by EPA, we are concerned about certain of the proposed new listings by EPA, pursuant to EPA's proposed disapproval of California's decision not to list certain waters. As you know, the State's decision on the composition of the State's 303(d) List is among the most important water quality regulatory issues facing California today. This list determines where TMDLs will be developed, and thus where California's limited water quality resources will be directed over the next several years. Under the SWRCB's current practice, whether a water body is included on the List also affects NPDES permitting during the interim period between listing and TMDL development. In light of the consequences of listing, we believe it is critically important that the 303(d) List include only those water quality limited segments for which TMDLs are required. Our concerns center on situations in which EPA is substituting its judgment – and listing criteria -- for that of the State, which we believe has broad discretion in listing decisions. Our specific comments on EPA's proposed additions to the list follow.

Humboldt Bay (PCBs), Laguna de Santa Rosa (total phosphorus), Calleguas Creek Reach 4 (Boron, Sulfate, TDS), Anaheim Bay (dieldrin, PCBs), Huntington Harbor (dieldrin, PCBs)

CASA and Tri-TAC have long been concerned about the use of informal advisory criteria used to interpret narrative objectives as the basis for listing decisions. If adopted water quality objectives are not providing adequate use protection, those objectives should be revisited through the standard-setting process. The Clean Water Act and Porter-Cologne Water Quality Control Act include requirements that serve important purposes in establishing water quality objectives. Most notably, Water Code Section 13241 requires that a Regional Board consider specified factors in establishing water quality objectives. Listing waters based on a non regulatory advisory criterion and proceeding with TMDL development constitutes an "end-run" around the statutorily mandated standard setting process.

EPA regulations require States to "provide information identifying the method by which the State intends to regulate point source discharges of toxic pollutants on water quality limited segments based on such narrative criteria. Such information may be included as part of the standards or may be included in documents generated by the State in response to the Water Quality Planning and Management Regulations (40 CFR part 35)." 40 CFR §131.11(a)(2) This information is sometimes referred to as a "narrative translator." To our knowledge, neither the State, nor EPA acting in place of the State pursuant to 40 CFR §131.22, have adopted legally valid water quality objectives for the substances for which these waters are proposed to be listed pursuant to the California Water Code, nor have the State or EPA adopted legally valid narrative translators (for toxic pollutants) with respect to the criteria being applied for listing in these cases. Prior to adoption of valid water quality standards and narrative translator mechanisms, it is invalid for EPA to list waters based on these informal criteria. Indeed, EPA has acknowledged this in other contexts. (*See* letter from Alexis Strauss, EPA Region IX, to Celeste Cantu, SWRCB, dated February 15, 2002,)

Humboldt Bay (PCBs), San Antonio Creek (Boron), Bolsa Chica (Copper and Nickel), Anaheim Bay (Copper, Nickel, Dieldrin, and PCBs), Huntington Harbor (Copper, Nickel, Dieldrin, and PCBs)

CASA and Tri-TAC question the validity of these proposed listings, which are all based on datasets of fewer than 10 samples. Although the State did not establish a set minimum number of samples, nor do EPA's regulations specify the number of samples required, the State did indicate that it generally looked for a minimum of 10 samples. (SWRCB Staff Report at 7.) The State also provided a detailed explanation of its approach to this issue in its Response to Comments, which explained how the State evaluated the amount and quality of the data, including the variability of the pollutant and reliability of the data. (SWRCB Response to Comments, January 2003 (Comment G.11.23).) In the absence of a clear regulatory guideline, we do not believe it is appropriate for EPA to "second-guess" the State's decisions about the amount or adequacy of the data.[1]

[1] If EPA engages in this practice for listing decisions, fairness requires that the Agency re-evaluate all existing listings to determine if sufficient valid data were available to support the original listings. If such a review were performed, we are confident it would show that some listings that EPA is not disapproving lack a valid basis. EPA's approach appears to be to add waters/pollutants to the State's list, but never to remove any listings, regardless of their validity.

Moreover, since EPA itself is establishing these listings, it is appropriate to examine EPA's listing guidance. In the September 1997 Guidelines for Preparation of the Comprehensive State Water Quality Assessments (305(b) Reports) and Electronic Updates, EPA stated that for toxicants such as priority pollutants, metals, chlorine and ammonia, the assessment guidelines assume that at least 10 samples are available over a 3-year period. EPA recommends that if fewer than 10 samples are available, States should consider other factors such as the magnitude of the exceedance and variability of the contaminant. Factors such as temporal and spatial variability also ought to be considered. It is not clear that, in these instances in which fewer than 10 samples were available, EPA considered any such factors.

Humboldt Bay (PCBs), Lake Merced (Dissolved Oxygen, pH), Chumash Creek (Dissolved Oxygen), Llagas Creek (Dissolved Oxygen), Los Osos Creek (Dissolved Oxygen), Orcutt Solomon Creek (Boron), San Antonio Creek (Boron), Bolsa Chica (Copper, Nickel), Anaheim Bay (Copper, Nickel, Dieldrin, PCBs), Huntington Harbor (Copper, Nickel, Dieldrin, PCBs)

For each of these proposed listings, EPA states in the Staff Report that there is "no current evidence of beneficial use impairments associated with this pollutant." Proceeding to list these waters without regard to this fact is inconsistent with the Clean Water Act (CWA). Section 303(d)(1)(A) states, in pertinent part, "[e]ach State shall identify those waters within its boundaries for which the effluent limitations required by section 1311(b)(1)(A) and section 1311(b)(1)(B) of this title are not stringent enough to implement any *water quality standard* applicable to such waters." (emphasis added) In turn, the term "water quality standard" is defined by Section 303(c)(2) of the CWA as consisting of "the designated uses of the navigable waters involved *and* the water quality criteria for such waters based upon such uses." (emphasis added)

Thus, the Act clearly states that a water quality standard consists of the combination of a beneficial use and the criteria to protect that use. EPA has instead applied these two interrelated components separately, as if each component had meaning independent of the other. Because EPA has made a finding that there is no evidence of beneficial use impairments associated with the specified pollutants, the proposed listings should more

appropriately be placed on the Monitoring List so that further investigations can be conducted to determine if there is indeed an impairment, or alternatively, whether the criteria/objective has been set at the level to appropriate for protecting the use. If the latter is not the case,

this situation should be addressed during the Triennial Review process, rather than adding another waterbody/pollutant combination to the 303(d) list, which triggers the mandatory duty to establish what may be a completely unnecessary TMDL.

San Gabriel River Reaches 1 and 3 (Toxicity), Coyote Creek (Toxicity)

We appreciate that EPA concurred with the State's decision to remove listings for ammonia for these waterbodies due to the presence of an enforceable program. We disagree, however, with the proposed re-listing of these waters for toxicity. Simply put, toxicity is a *condition* caused by a chemical, not a "pollutant."[2] As such, these listings should be for the pollutants causing the toxic effects, not for the toxicity itself, for which there is no rational way to develop a TMDL.[3] We recommend that these waters be placed on the Monitoring List, and, if specific toxicants are identified as a result of further investigations, those pollutants can be added to the 303(d) list during a future listing cycle.

In summary, development of the 303(d) List is primarily a State function, and in most respects, the State of California has conducted a fairly comprehensive and thoughtful evaluation of the waterbodies of the State. The SWRCB used relatively consistent criteria to make decisions about placing waterbodies in various categories, including whether to place a waterbody on the 303(d) List, triggering the development of a TMDL. We urge EPA to reevaluate the bases for these proposed listings and to give greater consideration to the technical and policy judgments made by the SWRCB after a lengthy and very public process.

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[2] The CWA directs States to establish TMDLs for the waters identified in paragraph (1)(A) of section 303(d) "for those pollutants which the Administrator identifies under section 1314(a)(2) of this title as suitable for such calculation." 33 U.S.C. 1313(d)(1)(C) The term "pollutant" as defined in Section 502 of the CWA does not appear to include toxicity. Further, federal regulations define whole effluent toxicity as "the aggregate toxic *effect* of an effluent measured directly by a toxicity test." (emphasis added) 40 CFR §122.2.

[3] As noted in footnote 2, per Section 303(d)(1)(C), the Administrator must have identified the pollutant as suitable for calculation of a TMDL. If EPA persists in listing these waters for toxicity, we request that EPA demonstrate that toxicity is in fact a pollutant suitable for calculation of a TMDL

Thank you very much for the opportunity to comment on this proposed action.

Sincerely,

Roberta L. Larson, Director
Legal and Regulatory Affairs
CASA

David R. Williams
Chair
Tri-TAC

cc: Arthur G. Baggett, Jr., Chair, SWRCB
Tom Howard, Deputy Executive Director, SWRCB
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July 8, 2003

David Smith
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Copy to KOH
CJW

Re: Clean Water Act Section 303(d) – Availability of List Decision, 68 Fed. Reg. 33693 (June 5, 2003)

Dear Mr. Smith:

On behalf of The Ocean Conservancy's 25,000 California members, I am pleased to submit the following comments on EPA's partial approval and partial disapproval of California's 2002 Section 303(d) list.[1] First, we would like to extend our thanks and appreciation for the hard work – both by the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs) and by U.S. EPA – that went into the development and review of this list. The Ocean Conservancy strongly supports the decision to use the 1998 303(d) list as the basis for the 2002 list and to approve the decision to retain previously listed waters unless new information dictates otherwise. The Ocean Conservancy also strongly supports the additions to the list proposed by the SWRCB, as well as those proposed by EPA in its staff report and letter regarding its decision.[2]

We also have continuing concerns about certain aspects of the list. Specifically:

- The placement of impaired waters on alternative lists such as the "TMDLs Completed List," the "Enforceable Programs List," and the "Monitoring List" instead of on the 303(d) list is contrary to the provisions of the Clean Water Act;
- The "changes in presentation" of certain water bodies, in which such water bodies are "redefined" to be smaller in size, amount to delistings that have been made without an adequate opportunity for public review and comment; and

[1] 68 Fed. Reg. 33693 (June 5, 2003).
[2] Letter from Alexis Strauss, Associate Regional Administrator, U.S. EPA Region IX to Celeste Cantu, Executive Director, SWRCB (June 5, 2003).

- The decision not to list waters impaired by invasive species is contrary to law and contrary to EPA's own policy, as expressed through its decisions to approve the listing of other water bodies as impaired by invasive species.

Our comment letters to the State Water Resources Control Board, dated November 22, 2002 and February 3, 2003 discuss each of these points in detail, and are attached and incorporated herein by reference.

The Use of Alternative Lists Is Inappropriate

The State submitted and EPA approved several alternative lists, each of which contained water bodies that were impaired but were nevertheless not placed on the 303(d) list. The "TMDLs Completed" list contains "those water quality limited segments that have TMDLs with approved implementation plans."[3] The "Enforceable Programs" list contains water quality limited segments for which "other enforceable programs will result in timely attainment of water quality standards."[4] The "Monitoring" list contains water bodies for which only "minimal, contradictory, or anecdotal information" exists, but the existing information supports a finding that the water body is impaired.[5]

At bottom, what these lists have in common is that they contain water bodies that do not meet applicable water quality standards. Clean Water Act section 303(d)(1)(A) requires each state to identify "those waters within its boundaries for which the effluent limitations . . . are not stringent enough to implement any water quality standard applicable to such waters."[6] Therefore, the plain language of the law requires the impaired water bodies on these lists to be on the 303(d) list. There is simply no provision in any section of the Act that permits the states or EPA to remove waters from the 303(d) list if they do not meet applicable water quality standards.

The State's rationale for creating the alternative "TMDLs Completed" list is to "show progress." However, progress toward achievement of water quality standards is not the standard for removal of a water body from the 303(d) list under the Clean Water Act. Moreover, delisting water segments that have completed TMDLs but that are not attaining water quality standards can delay their return to standards, as federal grants for monitoring and restoration are often linked to Section 303(d) listing.

Likewise, with respect to the "Enforceable Programs" list, the existence of requirements that have the potential to achieve water quality standards at some time in the future – but have not done so to date – does not exempt the waters from listing under Section 303(d). Given that the Clean Water Act requirements are twenty-five or more years old, or fifteen years old in the

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[3] State Water Resources Control Board, Division of Water Quality, "Revision of the Clean Water Act Section 303(d) List of Water Quality Limited Segments," *available at* http://www.swrcb.ca.gov/tmdl/docs/staff_report_303d_vol1_021903.pdf (February 2003).

[4] Smith, David, U.S. EPA Region IX, "Summary of Resolution of Issues Raised Concerning California's Draft 2002 303(d) List" (April 24, 2003).

[5] *See supra* note 3.

[6] 33 U.S.C. § 1313(d)(1)(A).

case of regulation of stormwater discharges, it is abundantly clear that the state has simply been unable to implement these requirements in a manner that is consistent with protecting the health of these waters.

Moreover, the inconsistent actions of the SWRCB with respect to these "enforceable programs" render their protective potential extremely suspect. For example, the SWRCB approved the placement of Coyote Creek on the "Enforceable Programs" list on the basis that plant upgrades at several Los Angeles Sanitation District facilities would solve the facilities' effluent toxicity problems. However, the SWRCB is now poised to approve an order that would remove numeric effluent toxicity limits for these facilities, thereby eliminating the very same enforceable provisions it used to justify the delisting of Coyote Creek.[7] The SWRCB's simultaneous pursuit of these two fundamentally incompatible positions demonstrates the potential for abuse of the "Enforceable Programs" list.

Finally, the standard for inclusion on the "Monitoring List" is unclear, as there are no guidelines for what is meant by "insufficient information." This raises important concerns about the potential for abuse of the list. At a minimum, any water bodies for which the weight of the evidence supports a finding of impairment belong on the 303(d) list.

Reducing the Size of Listed Water Bodies is Equivalent to Delisting

The State's submission made certain "changes in presentation of the water bodies" such that the water bodies were "redefined into smaller or more clearly defined areas" such that "[t]he total area or miles affected is, for the most part, substantially less than presented in the 1998 section 303(d) list."

Any reduction in the size of listed water bodies is tantamount to delisting of the deleted areas. Consequently, these delistings should be accompanied by specific information describing and supporting the decisions. A compilation of this information should be readily available to the public, which should have a specific opportunity to review and comment on these decisions.

The 303(d) List Must Contain Waters Impaired by Invasive Species

Several commenters, including TOC, recommended listing certain water bodies as impaired by invasive species. Specifically, commenters asserted that Huntington Harbor and Agua Hedionda Lagoon, in Regions 8 and 9 respectively, should be listed as impaired by *Caulerpa taxifolia*. In addition, commenters suggested that the Delta Estuary and San Joaquin and Sacramento Rivers in Region 5 should be listed as impaired by numerous invasive species. In each case, the State Board agreed based on the evidence presented that the invasive species were a "problem" (Region 5) and a "substantial threat" (Regions 8 and 9), but rejected the proposed listings solely on the grounds that invasive species are not pollutants.

The EPA approved the state's decision not to list the water bodies, but on an altogether different ground than that chosen by the SWRCB. EPA, unlike the SWRCB, found that while

[7] State Water Resources Control Board, Order No. 2003-____ (Draft), In the Matter of the Petition of County Sanitation District No. 2 of Los Angeles County and Santa Monica BayKeeper (June 10, 2003).

the information provided by commenters demonstrated that invasive species "may cause adverse impacts on aquatic ecosystem diversity and health," there was "no clear evidence presented to support a finding that a particular water quality standard is not being implemented as a result of the presence of invasive species" in those waters.[8] EPA added that "[w]e are unaware of a specific methodology that is available to support such a determination with respect to currently applicable California water quality standards."[9]

First, with respect to the SWRCB's rationale, there is no basis in fact or law for the conclusion that aquatic invasive species are not pollutants under the Clean Water Act. This is discussed in significant detail in our prior comments, which are attached and incorporated herein by reference.

EPA, apparently realizing that the state's rationale for refusing to list these water bodies was unsupportable, has developed an entirely new rationale for approving of the state's refusal to list these waters as impaired by invasive species. EPA took the position, not that invasive species are not pollutants, but that commenters failed to supply evidence sufficient to demonstrate that water quality standards were not being met as a result of the presence of invasives. EPA did not stop there, however, and went on to assert that it would be impossible for commenters to make such a demonstration ("We are unaware of a specific methodology that is available to support such a determination with respect to currently applicable California water quality standards").[10]

The information that commenters provided, however, establishes beyond doubt that beneficial uses – which are the "applicable water quality standards" under the Act[11] – are impaired by the presence of invasive species. With respect to the Region 5 proposed listings, Mr. Bill Jennings of DeltaKeeper stated in his June 15, 2002 comment letter that "the San Francisco-Sacramento-San Joaquin Bay Delta Estuary has been identified as one of the most 'invaded' estuaries in the world with respect to the introduction of exotic, non-native species." Mr. Jennings went on to document not only the fact of these invasions, but their impact on the ecosystem, citing and including in the record by reference U.S. Fish and Wildlife Service and Department of Water Resources reports, among others. These reports show that invasive species cause structural changes to habitat, dominate food webs, compete with native species for food resources, and have been otherwise associated with the elimination or decline of native species. Furthermore, as Mr. Jennings discussed in his comments, invasives have been associated with the failure of the ecosystem to "sustain healthy populations of anadromous and native fish, resulting in increasing limitations and threats of limitations on water diversions, wastewater discharges, channel dredging, levee maintenance, construction and other economic activities in and near the Estuary, with implications for the whole of California's economy."[12] The inescapable conclusion is that numerous beneficial uses, including marine and freshwater habitat,

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[8] *See supra* note 4.
[9] *Id.*
[10] *Id.*
[11] 40 C.F.R. § 130.7(b)(3).
[12] Cohen, Dr. Andrew and James T. Carlton, *Nonindigenous Aquatic Species in a United States Estuary: a Case Study of the Biological Invasions of the San Francisco Bay and Delta: A Report for the United States Fish and Wildlife Service* (1995).

navigation, as well as municipal and industrial uses, are impaired as a result of invasive species in Region 5.

Finally, it is undisputed that the waters at issue here are hydrologically connected to waters in Region 2 that have already been added to the 303(d) list on the basis of impairment by invasive species – specifically the Carquinez Strait, Richardson Bay, San Francisco Bay (South, Central and Lower), San Pablo Bay, and the areas of the Sacramento/San Joaquin Delta in Region 2. Given the hydrological integration of these waters, it is illogical and unsupportable to assert that – unlike the waters in Region 2 – the waters in Region 5 are not suitable for listing.

With respect to Regions 8 and 9, the National Marine Fisheries Service recommended the listing of Huntington Harbor and Agua Hedionda Lagoon as impaired by the invasive species *Caulerpa taxifolia*. Rod McInnis, Acting Regional Administrator of NMFS's Southwest Region, submitted comments dated June 5, 2002 in which he documented the existence of *Caulerpa* in the water bodies, the devastating ecological effects of the invasions, and the impairment of beneficial uses such as marine habitat and commercial and sport fishing. TOC's comments submitted November 22, 2002 supported the listing of these water bodies, noting that the danger posed by the *Caulerpa* infestation was so severe that the areas were tarped off and injected with chlorine, killing all aquatic life – except, possibly, not all of the algae. Whatever reason EPA might have for desiring to avoid its responsibility under the Clean Water Act for controlling invasive species pollution, it cannot willfully ignore the clearly-described adverse impacts *Caulerpa taxilfolia* has caused in Huntington Harbor and Agua Hedionda Lagoon.

Finally, as noted above, EPA not only argued – incorrectly – that commenters failed to demonstrate impairment for these water bodies, EPA also argued incorrectly that such a demonstration was impossible. This position is blatantly inconsistent with EPA's approval of numerous 303(d) listings due to impairment by invasive species to date. The State Water Resources Control Board has already listed – and EPA has already approved – the listing of Carquinez Strait, Richardson Bay, Central San Francisco Bay, Lower San Francisco Bay, South San Francisco Bay, San Pablo Bay, Suisun Bay, and the Sacramento-San Joaquin Delta in Region 2 as impaired by invasive species and a high priority for TMDL development. Indeed, the EPA expressed strong support for the State's efforts at developing TMDLs for invasive species.[13] Also, as mentioned in our prior comments, a number of other states – including Iowa, North Dakota, Idaho, and Oklahoma – have 303(d) lists that include water bodies impaired by invasive species,[14] and over 800 water bodies across the United States are listed as impaired because of "noxious aquatic plants," many of which are invasive.

In sum, the Delta Estuary and Sacramento-San Joaquin Rivers, Huntington Harbor, and Agua Hedionda Lagoon should be included on California's 303(d) list as impaired by invasive species. Impairment of the beneficial uses of these water bodies by invasive species has been

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[13] Letter from Alexis Strauss, Associate Regional Administrator, U.S. EPA Region IX to Walt Pettit, Executive Director, SWRCB (November 3, 1998) ("The Regional Board is also developing TMDLs for exotic species in San Francisco Bay. Through development of these TMDLs, the Regional Board is expected to develop a much more sophisticated understanding of Bay hydrodynamics, pollutant loadings from land and air sources, and toxics bioaccumulation . . . .").

[14] *See, e.g.*, U.S. Environmental Protection Agency – Office of Wetlands, Oceans and Watersheds, *Aquatic Nuisance Species in Ballast Water Discharges: Issues and Options* (September 10, 2001).

amply demonstrated in the record. Furthermore, invasive species are pollutants, and the listing of water bodies as impaired by these biological pollutants is consistent with the law and EPA's own policy.

* * * * *

Thank you for the opportunity to provide these comments. Please do not hesitate to contact me if you have any questions.

Sincerely,

Linda Sheehan
Director, Pacific Regional Office

cc: Wayne Nastri, Regional Administrator, U.S. EPA Region IX
Alexis Strauss, Associate Regional Administrator, U.S. EPA Region IX
Arthur G. Baggett, Jr., Chair, State Water Resources Control Board
Celeste Cantu, Executive Director, State Water Resources Control Board

enclosures

03/27/02

STATE WATER RESOURCES CONTROL BOARD

Date: 6-30-03

From: Region 4 | Div. / Ofc. / Region: 4 | Phone: -5 5766660

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Gray Davis
Governor

June 20, 2003

Stan Martinson
Chief, Division of Water Quality
State Water Resources Control Board
1001 I Street
Sacramento, California 95812

VIA: FACIMILE

Dear Mr. Martinson,

Region 4 staff have reviewed the June 9, 2003 Draft Water Quality Control Policy for Guidance on Assessing California Surface Waters (Draft Policy) and we appreciate the opportunity to provide comments on this preliminary draft. We are however greatly concerned that the severely compressed time frame for internal review prior to public release precludes any opportunity for meaningful discussion with State Board staff. Given the short time frame, our comments will focus on major issues, although we have included a few specific comments. The TMDL Roundtable, which has Region 4 representation, intends to submit separate comments on the Draft Policy that will, again, address many of our concerns.

In general, we are concerned that only a limited number of the recommendations that were made by staff of the Regional Boards, OCC staff and the TMDL Roundtable were incorporated into this draft policy. We believe that the extensive effort by Regional Board and OCC staff and the TMDL Roundtable to develop listing recommendations resulted in a sensible and viable approach for making listing decisions for incorporation into future listing cycles. Accordingly, we encourage State Board staff to revisit those recommendations for inclusion in the draft Policy, particularly since it will be primarily Regional Board staff that will be making the data evaluation and assessment decisions using the final approved Policy.

Part I: Major Comments on the Draft Policy

1. **The Introduction (page 1, last paragraph) contains the statement that it is the policy of the State Board to only report the most serious exceedances of water quality standards in the California Integrated Water Quality Report.**

This statement is problematic for several reasons. First, it conflicts with the legal requirement in the Clean Water Act to identify waters that are not meeting water quality standards, regardless of degree. Second, it fails to recognize that many of the "most serious exceedances" will be very difficult and potentially impossible to repair, whereas less severe, emerging problems may be correctable and more serious exceedances preventable. The statement conflicts with the previous two sentences that state, first, that "every water quality standard exceedances deserves an appropriate response" and, second, that the "SWRCB and RWQCBs must use all cost-effective means to address standards that are not met". The most cost-effective means is not to wait until an exceedance becomes one of the "most serious" at which time, repair becomes most costly.

Recommendation: Delete the sentence. This issue is already adequately addressed under Section 6 "Priority Setting and Scheduling" in that one of the considerations for ranking a water body as a high, medium or low priority is the degree to which water quality standards are not met. The Draft Policy specifically states that higher priority shall be assigned to water segments that exceed standards by 40 percent or more for Group 1 pollutants or by 20 percent or more for Group 2 pollutants (p. 22). Additionally, this issue could be further addressed by adding a reference to the TMDL (Impaired Waters) Policy as the means to determine the most appropriate, cost-effective response to a water body impairment.

2. In both the Planning List Factors (Section 4.1) and Section 303(d) List Factors (Section 4.2), the Draft Policy proposes to use the same exceedance frequencies for toxicants as used for conventional pollutants and bacteria.

The use of a 10% exceedance frequency for toxicants presents several problems. First, the Draft Policy's definition of attainment of water quality objectives for toxicants – exceeding in no more than 10% of samples – inherently contradicts established federal criteria and State objectives. This conflict will complicate enforcement of standards (e.g., the CTR states that objectives may not be exceeded more than once every three years), as dischargers will be able to point to State policy indicating less than 10% is non-impairing and therefore not serious. Second, this proposal is not consistent with EPA guidance, which has consistently recommended using lower allowable exceedance frequencies for toxicants that are consistent with the allowable exceedance frequency specified in the standard itself (USEPA, 1997; USEPA, 2002). Finally, the proposal does not acknowledge or take into account the more severe and persistent environmental consequences associated with exceedances of toxicant standards.

Recommendation: Region 4 recommends removing the requirement to use a 10% exceedance frequency to assess attainment of water quality objectives for toxicants. The 10% threshold requirement should be replaced with specific references to exceedance rates that are part of established water quality objectives (e.g. once every three years for CTR criteria). Another alternative is to simply state that "The rate of exceedance allowed by the established water quality objective or federal criteria must be used in evaluating attainment of water quality."

3. The Draft Policy proposes that waters be placed on a "Planning List" if there is insufficient data and information to determine if water quality standards are attained.

Based on the Planning List Factors (Section 4.1), the waters on this list appear to be "borderline" cases where data show impairment, but we do not have as much confidence in the impairment finding. (In many cases the only differences in the Planning List Factors and Section 303(d) List Factors are the number of samples needed to make a determination and the level of confidence used in the statistical analysis.) The Draft Policy states that waters on the Planning List have high priority for monitoring before the next section 303(d) list is completed, but provides no real incentive to gather additional data.

Recommendation: In order to provide a stronger incentive for monitoring these waters, a provision should be added under Section 3.1.1 or elsewhere, stating that if no additional data are collected prior to

the next listing cycle the water body shall be moved to the Section 303(d) List of Water Quality Limited Segments. This approach is consistent with other states' listing policies.

4. The Draft Policy states in Section 4.2.6, "Waters may be placed on the section 303(d) list for toxicity alone" (p. 12).

Region 4 is pleased to see that waters can be listed due to toxicity alone, since this is a direct measure of beneficial use impairment. However, it is not clear whether the criteria (A) through (C) in Section 4.2.6 (page 13) are further requirements for placement on the Section 303(d) List or, rather, requirements for identifying the pollutant(s) causing the toxicity prior to development of the a TMDL. If they are further requirements for placement on the Section 303(d) List, this is inconsistent with the previous statement that waters can be listed for toxicity alone. If they are requirements related to identification of the pollutant(s) causing the toxicity before developing a TMDL, they should not be included in the Listing Policy. This is because the Draft Policy relates to the listing process only, not the TMDL development process and, as such, should not impose unnecessary and unrealistic constraints on TMDL development.

Recommendation: Clarify whether the requirement to identify the pollutant(s) causing the toxicity using criteria (A) through (C) are related to the listing decision or not. If they are, remove the requirement, since it is inconsistent with the statement that waters can be listed for toxicity alone. If they are not related to the listing decision, then delete the requirement and, if appropriate, reference the Impaired Waters Policy instead.

5. The Draft Policy is unclear as to how narrative objectives in regional and statewide water quality control plans are used in the Section 303(d) Listing Factors or the Planning List Factors.

It is very unclear in the Draft Policy how and where narrative objectives are used to make listing decisions. The only clear reference to narrative objectives under the List Factors seems to be in Section 4.2.11, and here it seems as though several independent lines of evidence are needed to support an impairment decision on the basis of narrative objectives. Clearly narrative objectives must be used in an assessment and listing process, since they are part of our state water quality standards. Furthermore, a single line of evidence using an appropriate evaluation guideline should be adequate to list a water body on the basis of not attaining a narrative objective.

Recommendation: The Section 303(d) List Factors and Planning List Factors should be modified to clearly include guidance on comparing data to narrative water quality objectives. Specifically, references to "numeric water quality objectives" in Section 4.2 should be changed to "numeric and narrative water quality objectives". Furthermore, the discussion of each listing factor should be changed to reflect comparison to either numeric water quality objectives or appropriate evaluation guidelines for narrative objectives. For example, Section 4.2.2 could be revised to state, "Numeric water quality objectives or appropriate evaluation guidelines for narrative water quality objectives (as specified in Section 7.2.3)... are exceeded in..."

6. **The Draft Policy proposes that waters may only be listed for adverse biological response (Section 4.2.8) or degradation of biological populations and communities (Section 4.2.9) if associated water or sediment concentrations of pollutants also meet the conditions in Section 4.2.6. On the other hand, the Draft Policy proposes that waters may be delisted if either there is no adverse biological response/degradation of biological populations and communities or the associated water or sediment concentrations of pollutants are exceeded in fewer than 10% of samples (Sections 5.8 and 5.9, p. 20).**

Listing on the sole basis of adverse biological response or degradation of biological populations and communities should be permitted, since these show a direct impact to beneficial uses. On the flip side of the coin, if there is still adverse biological response or degradation of biological community, the water body should remain listed. Supporting this argument is the fact that adverse biological response and degradation of biological populations and communities may not always be caused by water or sediment toxicity. For example, excessive sedimentation or low dissolved oxygen may also result in these impacts.

Recommendation: In Sections 4.2.8 and 4.2.9 remove the additional requirement that associated water or sediment concentrations of pollutants meet the conditions described in Section 4.2.6. Instead, reference the Impaired Waters Policy and the TMDL development process as the means of identifying the pollutant(s) causing the biological impact. In Sections 5.8 and 5.9 remove the clause stating "or associated water or sediment numeric pollutant-specific guidelines are exceeded in fewer than 10 percent of synoptically collected samples..."

7. **The Draft Policy states in Section 4.2.10 that a water body may be listed on the basis of a trend of declining water quality standards attainment.**

Although not specifically referenced, Section 4.2.10 reflects an important anti-degradation component of state and federal anti-degradation requirements. It is important that the State Board adequately and accurately reflect this water quality standard. At the same time, the need to protect from downward trends demonstrates the fallacy of only listing the "most serious exceedances".

Recommendation: State and federal anti-degradation requirements should be explicitly referenced Section 4.2.10, and anti-degradation requirements should be included as a Section 303(d) List Factor, since it is a component of the State's water quality standards.

8. **The Draft Policy does not specifically address assessment of impairment by non-toxic/excessive sediment.**

Clean Water Act cases and USEPA guidance have clearly established that sediment is a pollutant, and the USEPA has developed a TMDL protocol document for sediment. While most regions have only narrative objectives for sediment, there are a number of published, sediment-related criteria. Excessive sediment is a well-documented problem in California and will likely receive increased attention, as more biological and habitat assessment data become available.

Recommendation: Non-toxic/excessive sediment should be added both under the Planning List Factors and the Section 303(d) List Factors. If a separate factor is not added, the Draft Policy should clearly state how non-toxic/excessive sediment is to be considered under existing Section 303(d) List Factors (i.e., Sections 4.2.2, 4.2.7, 4.2.8 and 4.2.9) and Planning List Factors (i.e., Sections 4.1.2, 4.1.8, 4.1.9 and 4.1.10).

9. The Draft Policy (Section 6) states that "high" priority waters are targeted for TMDL completion in two years.

The Draft Policy (Section 6) states that water body rankings shall be based on water body significance, degree that water quality objectives are not met (with higher priority assigned to those that exceed standards by 40 percent or more for Group 1 pollutants or 20 percent or more for Group 2 pollutants), and availability of funding and information. It further states that high priority waters will be targeted for TMDL completion within two years. This mixing of priority setting and scheduling is problematic. First, this is a listing policy not a TMDL development policy and as such should not impose unrealistic timelines on TMDL development. Second, this linkage of priorities and schedules will result in the classification of many Section 303(d)-listed waters as low priority simply due to existing workload constraints (as imposed by Consent Decrees or other requirements) or the unavailability of funding and information to complete the TMDLs within a two-year or five-year period. This will render the priority ranking system essentially meaningless in terms of evaluating water body significance and the severity of problems.

Recommendation: Delete the requirement that high priority waters will be targeted for TMDL completion within two years. Add that the Regional Boards will identify "two-year targeted waters" (i.e., those waters that the Regional Board plans target for TMDL development within the next two years) to meet requirements of 40 CFR 130.7. Factors to be considered in identifying such waters may include existing workload constraints imposed by Consent Decrees, priority rankings, availability of funding, availability of data and information, Triennial Review priorities, WDR/NPDES permit renewal schedules, and Watershed Management Initiative (WMI) schedules. The purpose of priority rankings should be to disclose the relative significance of a water body and the severity of water quality problems to the public.

10. The Draft Policy (Section 7.1) requires reassessment of the 2002 Section 303(d) List within two listing cycles.

The TMDL Roundtable recommended reviewing the 2002 list for consistency with this listing policy within the first two listing cycles following adoption of the listing policy, but it did not envision directly applying the policy to the existing list via a complete reassessment of data from previous listing cycles. The Roundtable also recommended a four-year listing cycle, but we realize that we are still bound to a two-year cycle. Additionally the proposed steps do not include recognition that reassessment or confirmation of impairment is part of the TMDL development process. There are and will be many TMDLs in the development process that will not be completed before the reassessment timeframe. An exemption should be provided for listings for which a TMDL has been started.

Recommendation: Understanding that future 303(d) listing efforts will involve not only assessing new data, but also reassessing data used in prior listing cycles, we recommend 8 years to complete the reassessment. In addition, reassessment of data from previous lists should not be required for impairments where TMDLs are under development, as the initial step in TMDL development is to verify the impairment.

11. The draft policy's direction on the scope of data to be used in assessment is inconsistent.

In some places the Draft Policy calls for use of data collected over the previous 10 years, and in others for use of data collected since the last list update cycle. The 10-year period proposed in the Draft Policy is justified by the often-lengthy time period between data collection and publication. Consistent with EPA guidance and the TMDL Roundtable's recommendations, we favor policy direction that emphasizes data collected since the last assessment process, with the flexibility to use older data (including recently published data) if there is evidence that they are representative of current conditions, or if the assessment involves trend analysis. For example, it may be appropriate to use older sediment and tissue data, since conditions in these media change more gradually than water column conditions. However, in many cases older data are not necessarily representative of current conditions and may in fact mask significant emerging water quality problems.

Recommendation: Change requirement to use the most recent 10-year period of data (under Sections 4.1, 4.2, 7.2.5.2 and elsewhere, as appropriate) to a requirement to use data since the last listing cycle. Add a clause stating that data older than the cutoff for the previous listing cycle may be used where justified (i.e., similar to provision in Section 7.2.5.2).

12. The Draft Policy seems to allow listing for nuisance on the Section 303(d) list only if numeric objectives or other acceptable evaluation guidelines are exceeded.[1]

Many Basin Plan objectives for nuisance conditions are expressed as narrative objectives and some do not have associated numeric evaluation guidelines. However, in some cases, qualitative evidence may be strong enough to warrant listing on the Section 303(d) list.

Recommendation: We recommend the following language to allow for listing nuisance conditions on either the Section 303(d) List or the Planning List, depending on the strength of evidence: "Photographic evidence and qualitative assessment for nuisance when documented in accordance with applicable requirements specified in section 7.2.4 is grounds for listing on the Section 303(d) List and/or the Planning List, depending on the strength of evidence." This language should be added to Section 4.2.7. Without this change, it is unclear how any nuisance conditions (e.g., trash) could be listed on the Section 303(d) List.

[1] The reference to section 4.2.1 under section 4.2.7.2 seems to be in error, as it relates to numeric objectives for toxicants.

13. The Draft Policy states in several places that, "This section supercedes any regional water quality control plan ... to the extent of any conflict."

Region 4 has concerns that some of the provisions of the Draft Policy result in the defacto establishment of new water quality objectives by the consistent application of an allowable 10% exceedance rate to all numeric water quality objectives and criteria. Since many established State water quality objectives and federal criteria already implicitly or explicitly identify an acceptable exceedance rate, this policy does result in the wholesale revision of numeric objectives and mandates specific interpretations of narrative objectives. As such, Region 4 is concerned that the Draft Policy will supercede more specific standards and policies contained in other state and regional water quality control plans.

If this is the intended policy direction, as a matter of State law, such revision would require the State Board to conduct a CEQA analysis, including preparation of a Functionally Equivalent Document. In addition, for each objective to which the 10% allowable exceedance rate would apply, the State Board would be required to consider the six factors identified in section 13241 of the Water Code. Since many of the objectives would affect agriculture, the State Board would arguably need to estimate the cost to agriculture (§ 13141). Finally, the State Board would need to conduct the appropriate anti-degradation analysis.

To the extent the State Board does not intend to establish de facto new water quality objectives, then the Listing Policy would be contrary to the Clean Water Act. The Listing Policy would be based on impairments that do not reflect the underlying water quality standards. Waters that are not meeting standards established in the Basin Plans would not be listed because they failed to meet the 10% exceedance rate.

Part II: Additional Comments on the Provisions of the Draft Policy

Following are other specific comments on some of the provisions of the Draft Policy.

- **Sections 4.2.7 and 5.7 – Nuisance Listing and Delisting Factors**

Region 4 recommends that "acceptable evaluation guidelines" include interpretation of narrative standards as established in TMDLs adopted by the Regional Board and approved by the State Board, OAL, and USEPA.

Additionally, in section 5.7.1.1, we contend that not exceeding numeric objectives for nutrients is not sufficient grounds for de-listing nutrient-related nuisance impairments. Most Basin Plans contain narrative rather than numeric objectives for nutrient-related nuisance factors. This is because knowledge regarding the numeric limits affecting excessive algal growth is an emerging issue, one that is being looked at closely by the RTAG, and many others. The numeric objectives for nitrogen species as contained in Region 4's Basin Plan and others within the State, address ammonia toxicity, municipal drinking water standards, and anti-degradation requirements. They were not established to control nuisance algal growth, and are generally considered to be too high to limit algal growth.

Finally, we recommend the last sentence of section 5.7.1.2 be modified to state, "These types of nuisances shall be removed from the list when there is no significant nuisance condition as compared with literature values or when compared to reference conditions, provided a reference condition can be identified that is representative of the listed water body."

- **Planning List Factors (page 6, first paragraph under section 4.1)**

The sentence reading "Waters that satisfy the conditions for placement on the section 303(d) list shall not be placed on the planning list except as allowed by section 4.2.6." appears to be in conflict with language in section 4.2.6, which states, "Waters may be placed on the section 303(d) list for toxicity alone". The sentence under section 4.1 should be deleted. Alternatively the paragraph should be revised to read "Waters that satisfy the conditions for placement on the section 303(d) list shall not be placed on the planning list. Waters need not be placed on the planning list before placement on the 303(d) list."

- **Monitoring List**

The monitoring list does not seem to be a useful addition, since all unassessed water bodies will be put on this list. Over time, and independent of the Section 303(d) listing process, many of these unassessed waters will likely be addressed by each Region's Surface Water Ambient Monitoring Program (SWAMP), should this program be fully funded into the future. We would suggest instead that we simply report the extent and number of unassessed water bodies in the State as has been done in the past. Additionally, we would suggest that what the Draft Policy now calls the "Planning List" be renamed the "Monitoring List", which is a more descriptive term for the Planning List.

- **Alternate Data Evaluation (Section 4.2.11, page 14)**

Region 4 recommends adding the presence of threatened and endangered species to the list of examples of what may determine the significance of a water body and adding a bullet for the severity of impact from a pollutant to the list of justifications for applying an alternate exceedance frequency.

- **Spatial Representation (Section 7.2.5.3, page 31)**

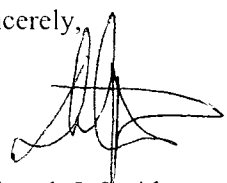
The Draft Policy states that samples within 200 meters of one another will be considered representative of the same location; however, this 200 meter threshold seems arbitrary and is backed by no evidence of its appropriateness. Clearly there are cases where this threshold would be inappropriate such as for sample locations immediately upstream of a confluence and immediately downstream of a confluence. Instead of using an arbitrary threshold, Region 4 recommends that best professional judgement be used to determine which samples are to be considered representative of the same location.

- **Introduction (page 1, fourth paragraph)**

The sentence ending with the superscript "2" should be revised to indicate that assessment involves evaluation of beneficial use support and compliance with anti-degradation requirements as well as compliance with narrative and numeric objectives consistent with the requirements of 40 CFR 130.7(b)(3). Region 4 recommends the following language, "this Policy provides guidance to interpret data and information to determine compliance with numeric and narrative water quality objectives, anti-degradation requirements, and support of beneficial uses."

We appreciate your consideration of these comments and look forward to continued work with the State Board to finalize the Policy. If you have any questions, please feel free to contact Renee DeShazo at (213) 576-6783 or rdeshazo@rb4.swrcb.ca.gov.

Sincerely,



Deborah J. Smith
Assistant Executive Officer

cc: Dennis A. Dickerson, Executive Officer
Jonathan Bishop, Section Chief, Regional Programs
Michael Lauffer, Staff Counsel
Craig J. Wilson, DWQ