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Chairman Hoppin and Board Members
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814
Via email: commentletters@waterboards.ca.gov

**Re: PROPOSED CLEAN WATER ACT SECTION 303(d) LIST OF WATER QUALITY
LIMITED SEGMENTS**

Dear Chair Hoppin and Board Members:

Heal the Bay hereby submits the following comments regarding the State Water Resources Control Board's ("State Board's") proposed update to the CWA §303(d) list of impaired waters (the "2010 List" or "303(d) List") as presented in the Draft Staff Report and Appendices ("Staff Report"). We appreciate the opportunity to provide comments.

Heal the Bay supports the proposed addition of 57 waterbody-pollutant segments in the Los Angeles Region (Region 4) to the 2010 List. Specifically, we strongly support the addition of benthic macro-invertebrate bioassessment listings and invasive species listings for numerous waterbodies in the Malibu Creek Watershed. Benthic macro-invertebrate surveys in the Malibu Creek have clearly demonstrated a diminished number of species and other metrics in combination with other pollutants such as nutrients. Regional Board staff correctly identified a negative trend in water quality in association with the proliferation of invasive species (specifically New Zealand Mudsnaills) and the associated degradation of the Aquatic Life Support core beneficial use.

However, we have serious concerns regarding some of the proposed indicator bacteria "delistings" and "do not list" decisions throughout the state. Maintaining or including these listings is critical as beach bacteria water quality standards are clearly not being met and public health is at risk. In addition, we believe that the rolling geometric mean should be utilized in these listing decisions and that there should not be exceptions to freshwater indicator bacteria listings in Region 8 when water quality is clearly above current standards. These concerns and others are outlined below.



I. Macro-Invertebrate Bioassessment and Invasive Species

A. We *strongly* support staff's proposed benthic macro-invertebrate bioassessment listings.

The diversity and sensitivity of the various species within a stream environment are important indicators of stream health. For instance, healthy communities tend to have a diverse set of invertebrate species, while degraded communities often have fewer sensitive species and a higher proportion of hardy, pollution tolerant species. Based on these principles, an index of biological integrity focuses on specific metrics to provide a comprehensive measure of stream health.

The State Board's sister agency, California Department of Fish and Game ("CDFG"), developed the Index of Biological Integrity in 2002 for the San Diego Region and adapted the methodology to all of southern California in 2005.¹ The IBI provides a quantitative means of evaluating the biotic conditions of a waterbody by analyzing seven metrics, including the number of different species present from the mayfly (*Ephemeroptera*), stonefly (*Plecoptera*) and caddisfly (*Trichoptera*) families and the number of different beetle species present.² The metrics are evaluated at a specific site and then converted to a score between 0 and 100 (zero being the worst case scenario). The study's authors chose two standard deviations below the mean reference site score to develop the impairment threshold. An IBI score of 39 is established as the boundary between "fair" and "poor" biological conditions, and a score of 20 is the division between "poor" and "very poor" biological conditions.³

State Board staff appropriately considered numerous Index of Biological Integrity ("IBI") data sets from multiple sources⁴ as a line of evidence in listing decisions. IBI scores are the best available data to make listing decisions for biological community impairment in streams and rivers. The development of statewide biocriteria is years away, and our waterbodies cannot afford to wait for these critical listings. In addition as another line of evidence, staff found associated pollutant data for the waterbodies. Combined, these data sets provided more than sufficient information to necessitate the proposed listings for "benthic macro-invertebrate bioassessment."

Of note, we also agree with staff's conclusion that Santa Clara River Reach 5 and Reach 6 should be listed for benthic macro-invertebrate bioassessment. The IBI data and water quality data show that benthic macroinvertebrate populations are impacted by a wide range of stressors in the waterbodies.

¹ Ode, P.R., A.C. Rehn and J.T. May., A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams, *Environmental Management*. 35:493-504 (2005).

² *Id.*

³ *Id.*

⁴ See Heal the Bay submission dated February 27, 2007.



B. We strongly support staff's proposed invasive species listings for numerous waterbodies in the Malibu Creek Watershed.

New Zealand mudsnails (NZMS), *Potamopyrgus antipodarum*, are tiny (3-5 mm), highly invasive aquatic snails. Reproducing parthenogenetically (only the female genome is expressed), a single snail is capable of producing a colony of 40 million progeny in the course of a single year. At high numbers, mud snails can completely cover a stream bed and damage local stream ecosystems. The colonies out-compete native aquatic invertebrates that the watershed's fish and amphibians rely on for food, disrupting the entire food web. NZMS pose a significant danger to streams throughout the Santa Monica Mountains and threaten the many efforts at habitat restoration and protection, particularly those to restore populations of the endangered steelhead trout in this region.⁵

State Board staff appropriately identified the declining trend in water quality due to the increased density of NZMS. In general, sites in the Malibu Creek Watershed exhibited an increase in the density of NZMS over time. In addition as another line of evidence, benthic macroinvertebrates as measured by Southern California IBI (index of biological integrity) were poor or very poor in these reaches, indicating impairment of benthic community structure. Thus, we strongly support the State Board's proposed listings.

II. Statewide Beach Listings

A. The State Board Should Maintain Numerous Beach Bacteria Listings

The State Board proposes to delist or not list numerous beaches for indicator bacteria impairment statewide. Many of these proposals are completely inappropriate. As part of our weekly Beach Report Card (BRC) program, Heal the Bay maintains the most extensive database in California of routine beach monitoring data collected by local health and water agencies for the purpose of public health protection at recreational marine beaches. Specifically, our Beach Report Card contains bacterial data for approximately 450 of the State's beaches in the AB411 time period and over 320 beaches year-round. All of these data are also provided to the State Board's beaches program and is readily available to staff.

According to our cursory analysis (Attachment A) of this readily available data, many of these listings should remain. The binomial model method was used (per Section 3.3 and 4.3 of the Listing Policy) in our analysis. For beaches throughout the state, we calculated the number of exceedance-days of the State's bacteriological standards for recreational marine waters. Using these exceedance-days numbers, we followed the State's policy on listing and delisting based

⁵ Excerpts from Santa Monica Bay Restoration Commission / Santa Monica Baykeeper. New Zealand Mudsnail Surveys July 2006, July 2007, October 2008 and April 2009 Santa Monica Mountains. August 2009.



on bacteria densities and then compared our results with the proposed delistings and do not list decisions.

As shown in Attachment A, our analysis revealed that there are numerous beaches that should *not be delisted* or *should be listed*. Thus, State Board should include these beaches in the 2010 303(d) List updates: **Arroyo Burro Beach; Capitola Beach; Cowell Beach at wharf; Huntington State Beach; Dana Point Harbor; Poche Beach; Border Field State Park; Capintaria State Beach; East Beach; Gaviota State Beach; Goleta Beach; Jalama Beach; Leadbetter Beach; Imperial Beach; Pismo Beach; Capistrano Beach; Ocean Beach, San Diego River outlet; and Oceanside, San Luis Rey River outlet.** In fact, a number of these beaches are notoriously polluted and have been listed on Heal the Bay “Beach Bummers” for many years: a list of the 10 most polluted beaches for fecal indicator bacteria (“FIBs”) in the entire state. How could State Board possibly delist some of the most polluted beaches in California that consistently exceed water quality standards as frequently as 20%, 30%, 40% or more of monitoring days? Of note due to time limitations, Heal the Bay only conducted a cursory review. There were other beaches targeted for do no list decisions that we did not evaluate. Thus in general, the State Board should spend more time with the beach bacteria data to understand the full picture of what listings should occur.

Further, there is no logic to splitting the “indicator bacteria” listings into three separate pollutant categories: enterococcus, fecal coliform and total coliform. For example, the fact sheet for Pacific Ocean Shoreline, San Clemente HA, at Poche Beach proposes that fecal coliform is delisted while enterococcus and total coliform remain listed. Of note, Poche Beach is number “4” on the Beach Report Card’s worst beach water quality in the state. There is no technical rationale for eliminating listings for specific FIBs. In general FIBs can come from a wide variety of sources, and source abatement BMPs do not target specific FIB types. For example, there are no source abatement BMPs that target Enterococcus, but do not target Fecal Coliforms, so it makes no sense to delist one type of FIB when other types still exceed water quality standards frequently and lead to beach closures and postings. All seven bacteria standards should be used when developing any beach bacteria TMDL. Generally the sources are very similar for bacteria pollution. As you know, there are seven indicator bacteria standards, including a total coliform to fecal coliform ratio. Did the analysis include all seven indicators? It is not evident that this analysis was completed.

It also appears that some of the beach bacteria data analyses are not using the complete readily available data set, and thus, are in conflict with the Listing Policy that states “All readily available data and information shall be evaluated.” For example, the fact sheet for Pacific Ocean Shoreline, San Diego HU, at the San Diego River outlet, at Dog Beach only includes AB411 beach and data collected during the time frame of April 1st to October 31st. However, data is collected year-round at this location. In fact this is one of the nine beaches in San Diego County to receive an “F” wet weather grade on the 2009-2010 Heal the Bay Beach Report Card. Another example is the beach monitoring data from the International Wastewater Treatment



Plan in the Tijuana River Valley. The State Board must look at all beach bacteria data, as beneficial uses must be protected year-round.

B. The State Board Should Use a Rolling 30 Day Geometric Mean when Evaluating Indicator Bacteria Impairments.

Our understanding is that when evaluating exceedances of bacteria limits, the State Board and regional boards used a calendar month approach as opposed to a rolling 30 day sample approach to assess geometric mean. In other words, only one geomean was calculated per month as opposed to the four or five results one would produce when using a rolling calculation. Using a static time-frame like a calendar month to assess a very dynamic system is completely inappropriate, statistically unsound, and is not protective of public health. In fact, the state's Ocean Plan requires all indicator bacteria monitoring programs to meet beach water quality standards based on the 30 day rolling geometric mean. There is no sound justification provided for taking a different approach. The end result of this approach will be far fewer beaches listed, far fewer TMDL violations, and most importantly, far more beachgoer illnesses. Thus, we urge the State Board and regional boards to evaluate indicator bacteria data using the rolling 30 day geometric mean.

C. Listings Should be Based on Current Water Quality Standards

According to the Staff Report, the Santa Ana Water Board made a "do not list" decision for E. coli for 12 water bodies. Water quality data for bacteria were assessed by the Regional Board staff using the USEPA freshwater standard of 235 MPN/ 100 ml. The LOEs for all water bodies show exceedances of the fresh water standard of 235 MPN/100 ml in most of the samples used in the LOE. The Santa Ana Water Board staff rationale for the "do not list" decision is based on the fact that stakeholders in the Region are in the process of developing new criteria for freshwater as there may be evidence that these waters are not designated beaches and that the 235 MPN/100 ml single sample maximum should not apply. Although the standards for these water bodies may change in the future, that is not a sufficient rationale for not listing these 12 water bodies that exceeded the current USEPA fresh water standard for bacteria. The State should never less protection of water body beneficial uses because of what might happen in the future. Thus we support State Board staff's decision to include these listings.

III. General Concerns

A. Toxicity Data from Publically Owed Treatment Works ("POTWs") Should Be Considered for the 2010 List and in Future 303(d) Listing Cycles.

In January 2009, Heal the Bay released a report entitled *License to Kill*. During the eight and a half year study time period (2000-2008), among the 42 dischargers, there were 408 chronic and



64 acute toxicity exceedances among all receiving water testing stations.⁶ Clearly beneficial uses are not being maintained in many of these waterbodies. Although this report was completed and submitted to the Los Angeles Regional Board after the Regional Board's data submission deadline, these toxicity data are readily available to the Regional Board in discharger monitoring report submittals. However, there are only a few new proposed toxicity listings, and only one listing appears to use POTW monitoring data. It is unclear if any other POTW toxicity data were assessed. We urge the State Board to review these data for 2010 listing decisions and prioritize toxicity data from POTWs in future listing cycles.

B. Staff should not exclude data simply because it is older. In this context the Proposed Walnut Creek Wash – Toxicity Delisting Should be Further Justified.

The Staff Report appears to base the Walnut Creek Wash Toxicity delisting decision on the fact that the majority of exceedances were observed in older samples. Staff concludes that “[f]ive out of 42 samples exhibit toxicity to Ceriodaphnia. However, four toxic results occurred in samples from 1992-93. In between 2003 and 2007, only one of 38 samples exhibited toxicity, thus significant improvements in survival and reproduction endpoints have been observed in the most recent timeframe.... Based on the improving trend in water quality conditions and only one toxic result in the past four years, it is evident that beneficial uses are being supported.” (Decision ID 7325). While we understand staff's reasoning, it appears that this is not a strict interpretation of the Listing Policy and opens the door to future misinterpretations of the Policy. The Staff Report indicates that section 4.6 of the Listing Policy is used for this delisting decision. This section of the Listing Policy states: “Water/Sediment Toxicity or associated water or sediment quality guidelines are not exceeded using the binomial distribution as described in section 4.1.” However by comparing the data to the binomial distribution, it is clear that the delisting should not occur. By only looking at the more recent data, staff is basically saying that the old data does not matter. This could be problematic, especially as tight monitoring budgets in the coming years reduce the amount of available newer data. We discourage the State Board and regional boards from using this line of reasoning for listing/delisting decisions.

C. State Board staff should clarify the origin of “potential source” listings in the 303(d)/305(b) tables.

The Staff Report for the CWA Section 303(d) List / 305(b) Report includes tables with a column titled “potential sources”. It is unclear why this column is included and what is the origin of this information. Typically, sources are identified through the development of a TMDL. The State Board should clarify that there are potentially other sources that will be identified when the TMDL is developed, so that other responsible parties do not see this as a comprehensive list of sources.

⁶ Of note, in the Report an “exceedance” is a test result of 1 TUc or greater.



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IV. Conclusion

In sum for all of the reasons set forth above, we urge the State Board to:

- (1) Support staff's proposal to list 57 additional waterbody-pollutant combinations in the Los Angeles Region, and in particular, the benthic macro-invertebrate bioassessment listings and invasive species listings;
- (2) Retain or add new bacteria indicator listings for numerous beaches that are currently proposed for delisting or "do not list";
- (3) Utilize the rolling 30 day geomean for indicator bacteria listing/delisting decisions;
- (4) Base listings on current water quality standards;
- (5) Utilize POTW toxicity data for listing decisions;
- (6) Evaluate both old data and new data.

If you have any questions, please contact us at 310-451-1500.

Sincerely,

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Water Quality Director

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President