Heal the Bay

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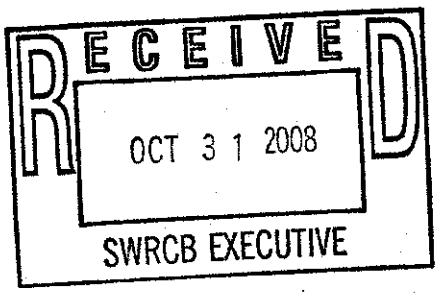
October 31st, 2008

Chairwoman Doduc and Board Members
State Water Resources Control Board
1101 I Street, 24th Floor
Sacramento, CA 95814
Sent Via Email [commentletters@waterboard.ca.gov]



Re: Bacterial Standards for REC-1 Waters Scoping Comments

Dear Chair Doduc and Board Members;

On behalf of Heal the Bay, we submit the following comments on the *Proposed Revision to the Bacterial Standards for Water Contact Recreation in Fresh Waters of California*. We appreciate the opportunity to provide these comments.

Element 1: Bacteria Indicators

Heal the Bay believes that the State Board should adopt a combination of the proposed alternatives for bacterial indicators. The EPA's freshwater criterion for bacteria, published in 1986, is based on epidemiology studies conducted in freshwater lakes with designated swimming areas. There is much debate as to whether these studies should be used when revising bacterial standards in California, especially since they were based on point source impacted lakes. However, research since this time has continued to show a positive correlation between these bacteria and swimmer health (Wade et. al, 2003). It is important that E. coli be included in the standards until such point at which EPA research is complete and revised standards have been released.

In addition to E. coli, the U.S. EPA 1986 Enterococci criteria should also be adopted. Current epidemiology studies being conducted by the EPA (2003 freshwater beaches study and 2003 Great Lakes Epidemiology study) are focusing on the use of rapid methods of detecting Enterococci; preliminary results are showing a strong correlation between these bacteria and human health. These two bacteria indicators will be the most valid and predictive of human health in REC-1 waters.

Arguments made for the use of other indicators such as optical brighteners or different bacterial indicators have no solid research to backup the claims that they are more indicative of human input. Optical brighteners have an extremely low level of detection, while epidemiology studies have not yet shown any other bacteria or virus to be more predictive.

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Element 2: Level of Protection for Water contact Recreation

Heal the Bay is strongly opposed to any risk level higher than EPA's already recommended risk level of eight illnesses per 1000 swimmers for freshwater. As such, the appropriate numeric thresholds to maintain this risk level that should be implemented into this document are:

- Geometeric Mean
  - Enterococcus---33 per 100 ml of sample water
  - E.Coli---126 per 100 ml of sample water
- Single Sample
  - Enterococcus---61 per 100 ml of sample water
  - E.Coli---235 per 100 ml of sample water

This is currently the federal criterion and should be adopted until freshwater criterion is revised by the USEPA.

Element 4: Mixing Zones

Mixing zones should not be allowed. Allowing a mixing zone near an outfall will mean that test results show a greatly diluted sample. This will not give an accurate measurement of bacteria concentration originating from the pipe and more importantly, will not be protective of human health as people can still be exposed to bacteria polluted water in the mixing zones.

Element 5: Averaging Periods

It is important that the geometric mean be shown as a rolling average. Thirty days has always been the health standard, and the State Board should ensure that they maintain consistency in this area. This will allow for variability in bacteria numbers and normalize the occasional spike in concentration where these numbers can range by multiple orders of magnitude. It is important to retain this number as a rolling mean rather than specifying an appropriate averaging period because it is more protective of human health and will allow monitoring agencies to identify specific problem areas in the water.

In addition to this, the argument was made during the October 22nd Scoping Meeting by various entities that the geometric mean should replace single sample standards. Heal the Bay is strongly opposed to using geometric means as the sole measurement for bacteria standards. It is reasonable to expect a number of monitored locations to behave aperiodically, where bacterial concentrations may fluctuate with peaks and valleys. As such, bacterial concerntrations could expect to exceed the single sample standard often but never exceed the geometric mean. Studies have shown that exceedance of these single sample standard values are associated with adverse health outcomes. It is imperative that both the geometric mean and single sample standards apply to ensure full protection of public health.

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Element 7: Analytical methods

At this point, most laboratories are using IDEXX or membrane filtration to determine compliance with bacterial objectives. It would be better to require monitoring agencies to continue using these analytical methods with a clause that they must switch over within a certain period of time once the EPA has identified its new water quality criteria.

Element 8: Compliance Schedules and Interim Requirements

Two years should be a sufficient period of time for achieving compliance with bacterial objectives.

Element 9: Site Specific Objectives

Heal the Bay strongly opposes inclusion of site specific objectives into its REC-1 criteria. While it is recognized that certain areas within a watershed will differ greatly in bacterial inputs, the same SSM objectives should apply throughout. It is impracticable for the general public to comprehend the different levels of risk associated with swimming in the same waterbody, and does not make sense from a regulatory stand point.

Various cities have made the argument that certain areas are too shallow for swimming and should therefore not have the same standards as other more swimmable areas. However, it is extremely important that a child who sits down and plays in a shallow stream is not more susceptible to disease than a child who plays on the banks of a deeper river. Both children are still at risk of ingesting polluted water and the users of less-frequented or shallower freshwaters should be afforded the same level of protection as users at popular or more swimmable waters.

Element 10: Implementation of Bacteria Objectives in Regards to TMDLs

The standards that are currently in place are there to protect public health regardless of the source. Animals have been shown to be sources of microbes that are pathogenic to humans (Giardia, Cryptosporidium, E. coli etc.). The Santa Monica Bay study (Haile et. al, 1999) was a runoff epidemiology study that demonstrated human health risks to swimmers in front of flowing drains with large "natural" source components. Natural Source exclusion may be appropriate for fecal bacteria impaired waters that have TMDL's, but certainly not for fresh water bathing water criteria. The State Board should not allow a reference system/antidegradation approach or natural sources exclusion approach when revising these criteria.

Thank you for reviewing our comments

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

Sincerely,

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