

**Response to Comments– CEQA Scoping Meeting for the
Proposed Update to the Basin Plan’s Freshwater Bacteria Objectives, held on April 19, 2010**

1. City of Signal Hill, represented by Flow Science

No.	Author	Date	Comment	Response
1.1	City of Signal Hill	4/19/2010	<p>Flow Science, on behalf of the City of Signal Hill, appreciates the opportunity to submit comments in response to the April 6, 2010 CEQA Scoping Meeting Notice for the above-captioned proposed Basin Plan amendment.</p> <p>As detailed below, Flow Science supports the proposed change (removal of objectives for fecal coliform) and urges the Regional Water Quality Control Board (Regional Board) to consider additional changes to the objectives at the same time. We also urge the Regional Board to delay the adoption of bacteria TMDLs until the standards for indicator bacteria are reconsidered.</p>	Comment noted. See responses to detailed comments below.
1.2	City of Signal Hill	4/19/2010	The current proposed Basin Plan Amendment to remove fecal coliform is consistent with USEPA's directives and consistent with scientific studies showing the fecal coliform is at best a poor indicator of human health risk. For this reason, we support the proposed Basin Plan amendment.	Comment noted.
1.3	City of Signal Hill	4/19/2010	The best available science indicates that <i>E. coli</i> are far from a perfect indicator of human health risk. <i>E. coli</i> originate from multiple sources, including birds and wildlife, and can regrow in sediments and biofilms. Further, recent epidemiological work in southern California indicates that, when human	This comment has no bearing on the proposed action to remove the <i>fecal coliform</i> water quality objective. It is directed towards the existing <i>E.coli</i> objective, which is not under consideration.

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			<p>sources of indicator bacteria have been minimized or eliminated, indicator bacteria are uncorrelated with human health risk. An extensive cohort epidemiological study of Mission Bay⁵, where extensive efforts were made to eliminate human sources of bacteria, found that "[t]he risk of illness was uncorrelated with levels of traditional water quality indicators. Of particular note, the state water quality thresholds [including those for <i>E. coli</i>] were not predictive of swimming-related illnesses. Similarly, no correlation was found between increased risk of illness and increased levels of most non-traditional water quality indicators."</p>	<p>That notwithstanding, US EPA continues to recommend the use of <i>E. coli</i> as the water quality objective for protection of water contact recreation. In a systematic review of 27 epidemiological studies conducted by Wade et al. (2003), the researchers concluded that the risk of gastrointestinal (GI) illness is considerably lower in studies with <i>E. coli</i> densities below those established by EPA (1986). They also found that <i>E. coli</i> is a more reliable and consistent predictor of GI illness than enterococci or other indicators in fresh recreational waters, thus providing support for EPA’s and the Regional Board’s continued reliance on <i>E. coli</i> as the water quality objective in freshwaters.</p> <p>Regarding the issue of natural sources, US EPA’s regulatory premise concerning recreational water quality has been that nonhuman-derived human pathogens in fecally contaminated waters may be as hazardous as their human-derived counterparts. Therefore, US EPA’s currently recommended recreational water quality criteria do not differentiate between fecal sources of pathogens. US EPA’s recent review of</p>

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				<p><i>Bacteroides thetaiotamicron</i>, adenovirus, norovirus, and coliphage (somatic and F+) and health risk.</p> <p>The Regional Board along with the State Board is monitoring the progress of, and participating in, these studies. These studies will provide additional information beyond that collected in the Mission Bay study. Final results from the southern California studies are expected in 2011, and updated recommendations from US EPA are expected toward the end of 2012, at the earliest. When US EPA publishes updated recommended water quality criteria for bacteria on the basis of findings from these studies, the Regional Board will consider modifying the region’s water quality objectives at that time.</p>
1.4	City of Signal Hill	4/19/2010	<p>In the past, the Los Angeles Regional Board has used a "reference" or "natural" watershed approach to try to address natural sources. Under this approach, an "allowable exceedance frequency" is determined using monitoring data for indicator bacteria in an undeveloped watershed; the subject watershed is then allowed to exceed standards at the same frequency as the natural watershed. However, this approach is problematic for several reasons. For example, dry weather flows in urban watersheds come from many sources, including POTW effluent, overland flows,</p>	<p>This comment has no bearing on the proposed action to remove the fecal coliform water quality objective. It is directed towards the existing implementation provisions of the current bacteria objectives and the Los Angeles River Watershed Bacteria TMDL, which are not under consideration in this action.</p> <p>This notwithstanding, the Regional</p>

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1.5	City of Signal Hill	4/19/2010	<p>Because of bacteria regrowth in streams, compliance with water quality objectives in-stream may not be achievable, even when extensive treatment measures are implemented to minimize bacteria concentrations in inflows. For example, Orange County recently studied the efficacy of several BMPs for reducing bacteria concentrations in Aliso Creek, Orange</p>	<p>This comment has no bearing on the proposed action to remove the fecal coliform water quality objective for freshwaters. See also response to comment 1.4. Furthermore, the means of determining compliance with water quality objectives is specified in</p>

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1.6	City of Signal Hill	4/19/2010	<p>The draft implementation plan prepared by the CREST consulting team⁹ includes several options for the "first iteration" of implementation. (The CREST work product was developed assuming that <i>E. coli</i> would be the only targeted bacteria [i.e., the proposed alternative in the subject proposed Basin Plan amendment], and considering implementation measures for dry weather compliance only.) One of the concepts evaluated would focus on meeting TMDL waste load allocations (WLAs) by diverting and/or treating dry weather flows from storm drains and tributaries to the mainstem of the Los Angeles River. The cost estimate for this approach, assuming 3% escalation of costs per year, is \$ 1.112 billion for dry weather flows only. Expenditures of this magnitude will undoubtedly impact other municipal services, potentially including health and safety</p>	<p>This comment has no bearing on the proposed action to remove the fecal coliform water quality objectives for freshwaters. There is no additional cost associated with removing a water quality objective; instead, there may be cost savings by removing a redundant regulatory requirement.</p> <p>Regarding strict application of the <i>E. coli</i> objectives, as the commenter points out in comment 1.4, the Regional Board uses a reference system/antidegradation approach to account for natural sources of bacteria in order to address concerns about the potential impact of water quality controls on wildlife and aquatic</p>

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1.7	City of Signal Hill	4/19/2010	<p>For these reasons, we request that the Board consider as a CEQA alternative amending the objectives for indicator bacteria such that they require compliance with <i>E. coli</i> concentrations "as a result of controllable water quality factors." Under this concept, if it were demonstrated, using appropriate scientific techniques, that bacteria in excess of criteria were from "uncontrollable" factors (such as wildlife), the presence of those bacteria would not be considered a violation of water quality objectives. It is likely that this alternative would have a less significant environmental impact than the proposed alternative (i.e., removal of fecal coliform from the water quality</p>	<p>The proposed amendment is narrow in scope. The intent is to align the current Basin Plan bacteria objectives for freshwaters designated for water contact recreation with EPA’s currently recommended criteria, and to remove regulatory redundancy. No new or revised implementation provisions for the remaining <i>E. coli</i> objectives are being proposed. The commenter’s concerns are addressed by the natural sources exclusion approach, which is an approved implementation procedure for</p>

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1.8	City of Signal Hill	4/19/2010	<p>Project timing. Because of the potentially large expenditures of public resources associated with the proposed project, we urge the Regional Board to delay the adoption of bacteria TMDLs until the standards for indicator bacteria are further reconsidered, as detailed above.</p>	<p>This comment has no bearing on the proposed action to remove the fecal coliform water quality objectives for freshwaters. There will be no expenditures of public resources associated with the proposed project. Rather, the proposed project will potentially reduce the expenditure of public resources by removing a regulatory requirement. With regard to bacteria TMDLs, the commenter is encouraged to raise such comments during the development and consideration of the TMDLs in question.</p>