Response to Comments on the Malibu Creek and Lagoon Bacteria TMDL Revision
Comment due date: May 7, 2012

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1	County of Los Angeles, May 7, 2012		
1.1	County of Los Angeles	**A. The Rolling Geometric Mean Should Be Calculated Every Four Weeks.** Regional Board staff has conducted a thorough analysis of two approaches to calculate the geometric mean - rolling versus discrete approach -and arrived at the following conclusion and recommendations: "A rolling geometric mean may, in some cases, determine a beach does not meet standards when it does. For example, a single very high sample can influence the geometric mean calculation week after week into a period where the water quality is, in fact, meeting standards. Alternatively, a discrete	Staff disagrees with the County's suggestion to calculate the rolling geometric mean every four weeks. The method suggested by the County is more of a discrete calculation method with overlap; only the last two weeks of any month would be included into more than one calculation (and never the first two weeks). Since most sites sample weekly (and none less than weekly) a

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		geometric mean can, in some cases, arbitrarily split a period of low water quality such that the geometric mean calculation determines the beach does meet water quality standards when there was a period when it did not. ... In the superior interest of not failing to identify water quality impairment, the rolling geometric calculation is preferred. ... calculate geometric mean weekly using 5 or more samples for rolling six week period." [Page 36 of Staff Report] While we are not opposed to the rolling approach, calculating the rolling geometric mean on a weekly basis as proposed by staff is very problematic and should be revised as described below. As stated in the staff report, geometric mean was meant to measure the quality of a water-body long term. Therefore, calculating the geometric mean weekly is not meaningful. More importantly, calculating geometric mean for a certain week by using data collected over previous six weeks would not reflect the condition of the water-body in that week because about 83% of the data used in the calculation was taken from outside of the week. We propose the following revision to staff's recommended language for calculating geometric mean: "For purposes of this TMDL, the geometric means shall be calculated ~~weekly~~ <u>every four weeks</u> as a rolling geometric mean using 5 or more samples, ~~for~~ over six week periods, starting all calculation weeks on Sunday."	weekly calculation is appropriate.

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		This proposed change would make geometric mean calculation and application more meaningful and, at the same time, reasonably addresses staff's and our concerns for the following reasons: • The rolling approach is still used and provides a two-week overlap between geometric mean calculation periods. Thus, seasonal interdependency and continuity in the calculation are maintained. This would address staff's concern about the arbitrary boundaries between seasons or calculation periods. • It reduces the false positive conclusion about exceedances, i.e., the conclusion that "a beach does not meet standards when it does" would be minimized. It is in line with USEPA's draft criteria approach of 30-90 days duration for geometric mean calculation.	
1.2	County of Los Angeles	**B. The Reference System Approach Should Apply to Geometric Means.** As stated in the TMDLs under this re-consideration and other various Regional Board documents, Regional Board supports the reference system approach as a mechanism of implementing recreational standards in Los Angeles Region: "[The reference system] approach is used in recognition of the fact that there are natural sources of bacteria that may cause or contribute to exceedances of bacteria objectives and that it is not the intent of Regional Board to require treatment or diversion of natural coastal creeks or to require treatment of	During the data period examined, exceedances of the geometric mean water quality objectives were observed at Leo Carrillo Beach. However, Leo Carrillo remains the best available reference system. Staff acknowledges that further study and corrective actions may be required at Leo Carrillo Beach in order to address geometric mean exceedances.

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		natural sources of bacteria.... or to hold a non-reference beach to a higher standard than a reference beach." According to Appendix 8 of the draft Staff Report and summarized in the table below, there are about 20-25% exceedances of geometric mean at the reference site (i.e., Leo Carrillo Beach). **[See the County of Los Angeles comment letter for table]** These exceedances are very similar to single-sample exceedances for wet-weather, which explains the impact of wet-weather on geometric mean results. Despite these significant exceedances of geometric mean at the reference site, staff continues to recommend allowing no exceedances of geometric mean objectives. This inconsistent application of the reference system approach is not based on science and potentially would require the treatment of non-anthropogenic sources of bacteria. Given the complex nature of bacteria and, more importantly, the fact that non-anthropogenic sources can cause significant exceedances of the geometric mean (as seen in the above table), staff should re-assess its approach on the implementation of the geometric mean standards. It is unreasonable to hold dischargers to a standard that cannot be met at the reference site. Therefore, appropriate number of geometric mean exceedances should be allowed based on findings at the reference site.	The epidemiological studies referenced in USEPA's 1986 ambient water quality criteria make the link between geometric mean concentrations and health risk. Therefore, in order to protect public health, there should be no allowable exceedances of the geometric mean. In addition, USEPA has not been willing to endorse exceedances of the geometric mean water quality objective during any period.
1.3	County of Los Angeles	**F. Ballona Estuary and Malibu Lagoon Standards Should Be Based on Marine Water Data.**	

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		As stated in the respective TMDLs, the recreational beneficial uses for Ballona Estuary and Malibu Lagoon were set based on marine water and, accordingly, marine water bacteriological objectives were used for these two water-bodies. However, the allowable exceedance days for these two water-bodies were set based on exceedance rates at freshwater reference sites. This approach is inappropriate and not scientifically justified. We understand that currently there is no representative reference system for these two water-bodies. However, these are unique water-bodies that are very different from freshwater creeks and should be treated in that manner. At a minimum, these two water-bodies should be treated in a similar manner as the Santa Clara River Estuary. For the same reasons given in the Santa Clara River Estuary Bacteria TMDL, the data from the San Mateo State Beach and San Onofre State Beach should be used as reference system for Ballona Estuary and Malibu Lagoon. Accordingly, the allowable exceedance rates should be 30% for wet weather and 9% for dry weather. The corresponding exceedance days then would be 23 days for wet weather and 26 days for dry weather. If staff maintains that Santa Clara River Estuary approach is not appropriate for these two water-bodies, then the Leo Carrillo Beach results should be used. In this case, the allowable exceedance would be 22% (17 days) for wet weather and 10% (29 days) for dry weather.	Staff recommends Leo Carrillo Beach as the reference beach for all Santa Monica Bay beaches because it is within the Santa Monica Bay watershed; it provides a long database; and ensures equal protection across Santa Monica Bay beaches. In order to protect the adjacent beaches nearby the Ballona Estuary and Malibu Lagoon, staff agrees to use Leo Carrillo as the representative reference beach for Ballona Estuary and Malibu Lagoon. Staff recognizes that the freshwater exceedances probabilities are lower than the updated Leo Carillo exceedances probabilities and that staff has previously applied the marine water standards, including allowable exceedance days to estuaries in the region. Staff therefore agrees to revise the allowable exceedances probabilities for the Malibu Lagoon and Ballona Estuary to be equal to 22% for wet weather, 10.4% for winter dry weather, and 0% for summer dry weather. In the 1993 storm year, there were 75 days for wet days, 210 days for

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			summer-dry days, and 80 days for winter-dry days. In this case, for daily sampling the allowable exceedance days for the summer dry-weather period are zero days, the winter dry-weather period are 9 days, and the wet-weather period are 17 days. For weekly sampling the allowable exceedance days for the summer dry-weather period are zero days, the winter dry-weather period are 2 days, and the wet-weather period are 3 days. Staff agrees to revise the staff reports and BPAs for the Ballona and Malibu Bacteria TMDL accordingly.
1.4	County of Los Angeles	**G. Staff Should Consider Natural Source Exclusion at Malibu Lagoon for Dry Weather** As part of coordinated monitoring efforts for Malibu Creek bacteria TMDL, water quality data is collected at several sites upstream of SMB MC-02, including station MCW-02 which is approximately 1.25 miles upstream of SMB MC-02. Sampling data from MCW-02 show the bacteria levels upstream were often significantly lower than the bacteria levels at SMB MC-02. In fact, data show that during dry weather, MCW-02 often had no flows or no single sample E. Coli or Fecal Coliform exceedances on or near the dates when SMB-MC-02 downstream showed exceedances. This clearly suggests the bacteria at SMB-MC-02 may be due to sources other than upstream discharges. In May 2011, the US Geological Survey published a study titled "The Distribution of Fecal Indicator Bacteria along the Malibu, California,	Staff disagrees that a natural source exclusion should be applied to Malibu Lagoon during dry weather. It is not evident that all sources of indicator bacteria in the Lagoon are of natural origin, nor has it been demonstrated that all anthropogenic sources to the Lagoon have been controlled such that they do not cause or contribute to an exceedance of the single sample objectives, which is a criterion that must be met in order for a natural source

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		Coastline" (Izbicki, 2011). This study set out to assess the potential sources of bacteria in Malibu Lagoon and at Surfrider Beach, among other sites. The study reported that the bacteria in Malibu Lagoon and Surfrider Beach were not found to be associated with anthropogenic evidences such as human specific microbes, bacteroides, and man-man chemicals. The Study concluded that observed FIB may be more likely associated with natural sources such as birds and decomposition of organic matter. Therefore, staff should consider applying natural source exclusion for Malibu Lagoon. We are also concerned that a required special study to quantify bacterial loading from birds has not been completed. Per the TMDL, the State Department of Parks and Recreation is required to conduct a study to quantify the bacteria loading from birds to Malibu Lagoon. The result of this study was supposed to have been submitted to the Regional Board in 2008 (two years after the effective date of the TMDL) and be used during reconsideration of the TMDL, specifically in assessing the feasibility of applying the natural sources exclusion approach to the Lagoon. There are a least two reasons why this bird study is important. First, the study is important in order to further understand of the sources of bacteria in Malibu Lagoon itself. The source identification study for bacteria conducted for Marina Del Rey in 2007 indicates that birds can be a significant source of bacteria in an enclosed bay or lagoon. The special study that was required of the State Department of Parks and Recreation would assist the Regional Board and the public in understanding if this is true for Malibu Lagoon also. Second, the lagoon, when breached, empties into the Pacific Ocean	exclusion to apply. For example, although bacteria exceedance rates (68% for wet weather, 46% for winter dry weather, and 29% for summer dry weather) at SMB MC-2 are less than the exceedance rates at MCW-2 (44% for wet weather, 15% for winter dry weather, and 4.3% for summer dry weather), the exceedance rates at MCW-2 are still higher than the allowable exceedance rates, which demonstrates (1) that Malibu Creek itself is impaired for bacteria and (2) that upstream discharges are a source of bacteria to Malibu Lagoon and Surfrider Beach. Staff acknowledges that the US Geological Survey published a study titled "The Distribution of Fecal Indicator Bacteria along the Malibu, California, Coastline" (Izbicki, 2011). In the report, the author stated that "Direct discharge from Malibu Lagoon to the ocean during the April sample period was a source of FIB to the ocean, and movement of water from the lagoon through the berm separating the lagoon from the ocean was a source of FIB to

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		close to Surfrider Beach. This study will have the potential for advancing the Regional Board's knowledge about the sources of bacteria that are impacting Surfrider Beach. Given the emphasis placed on meeting standards at that beach, there is no reason why this study, which will assist in that effort, is not being required. The Regional Board should require the State Department of Parks and Recreation to complete the study as soon as possible.	the near-shore ocean during the July sample period at low tide. However, data collected as part of this study need further interpretation before final conclusions can be drawn. In particular, statistical analysis of genetic data (T-RFLP, Phylochip), molecular data (PLFA), and chemical data needs to be completed to fully understand how these complex data sets relate to FIB occurrence and sources in this complex hydrologic setting." Regarding the TMDL requirement for State Parks to submit a bird study, as stated in the staff report, "Currently, not all anthropogenic sources of bacteria to the lagoon have been controlled. Therefore, consideration of a natural sources exclusion approach is premature at this time and a bird study is not yet necessary. Furthermore, the estimation of bacteria loadings from birds in the lagoon has already been described in the 2004 staff report and staff believes that an additional bird study conducted by State Parks at this point would not improve upon the estimates in the 2004 staff report. A further bird study to quantify the

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			bacteria loading from birds may be required at the Regional Board's discretion in the future."
1.5	County of Los Angeles	**H. Additional Re-Consideration** With the continuous evolution of the science behind bacteria and health risks associated with recreational activities, it is important to evaluate these TMDLs every five years. There are still many unanswered questions about bacteria that need to be addressed in the future as the science evolves. Some of the issues that warrant re-opener includes (i) the USEPA's new recreational criteria, slated for November 2012, with the associated implementation guidance to come in November 2013; (ii) the development of site-specific recreational criteria using quantitative microbial risk assessment (QMRA) tool for beaches impacted by non-POTW discharges; (iii) the epidemiological studies being conducted in southern California for non-point source impacted beaches; and (iv) consideration of natural sources exclusion once anthropogenic sources are addressed.	Staff acknowledges that other aspects of the TMDL may need to be reconsidered, especially as the science continues to develop. Staff will consider all new material and information brought to our attention at any time and bring the TMDL to the Board for re-consideration, if warranted. For this reconsideration currently before the Board, staff is not recommending that a mandatory re-consideration of the TMDL be put in the implementation schedule.
1.6	County of Los Angeles	**I. Bacteria Indicator for Marine Waters** USEPA's draft 2012 recreational water quality criteria, released in December 2011, state the following regarding bacteria indicators: "Not all indicators have a clear relationship to illness levels observed in epidemiological studies. Two microorganisms that have consistently performed well as indicators of illness in epidemiological studies are entrococci in both fresh and marine water and E. coli in fresh water.	Changes to bacterial standards have not been considered for this action, have not been noticed for public comment and are outside the scope of this reconsideration. Furthermore, the marine water standards used by this Board are based on a landmark epidemiological study conducted at Santa Monica Bay

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		Accordingly, the USEPA recommended the use of enterococci as a bacterial indicator for marine waters. USEPA's conclusion and recommendation were drawn upon the latest research and science on the link between illness and fecal contamination at recreational beaches. Many studies, including USEPA studies, have found no correlation between other bacteria indicators, such as total coliform and fecal coliform, and health risks, and have cast doubt on the application of these indicators for regulatory purposes. Despite recent science and USEPA's recommendations, staff continues to use traditional bacteria indicators (total coliform, fecal coliform, enterococcus, and fecal- to-total coliform ratio), which were originally established by the State Department of Public Services under the authority given to it via Assembly Bill (AB) 411. The AB 411 bacteria standard was intended for beach notification or advisory purposes (such as postings, closings, and restrictions) and never was intended to be used for TMDL or permit compliance assessment. Therefore, the continued use of these multiple indicators for TMDLs is inappropriate. In 2010, the Regional Board removed the fecal coliform indicator from freshwater standard based on USEPA recommendations and epidemiological study findings that enterococcus and *E. coli* were the indicators that most strongly correlate with swimming associated illness in freshwater. The same is true for marine waters, where only enterococcus has shown strong correlation with illness. Therefore, staff should update its bacteria standard as part of this re-opener to reflect enterococcus as the sole bacteria indicator for marine waters, which is consistent with USEPA's draft new criteria.	beaches, the results of which showed a correlation between the indicators and increased health risk.
1.7	County of Los	**M. Miscellaneous Comments**	

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	Angeles	b. On page 7 of the revised Basin Plan Amendment (implementation section) for Malibu Creek Bacteria TMDL, January 24, 2009 is presented as the compliance date for the dry weather. This appears to be a typo-error and should be corrected as January 24, 2012, consistent with the schedule given on page 14.	The commenter is correct. January 24, 2012 is the compliance date for the dry weather in the BPA. The summer dry-weather compliance date was January 24, 2009 and the winter dry-weather compliance date was January 24, 2012. However, with the proposed revision to include just two compliance periods (wet and dry), the old summer dry-weather compliance date no longer applies. Page 9 of the Basin Plan amendment will be revised to reflect this correction.
2	County of Ventura, May 7, 2012		
2.1	County of Ventura	**Reopener Schedule** LARWQCB staff are proposing that comments are due on May 7, 2012 and the TMDL reopener hearing is scheduled for June 7, 2012. We request that the MCW Bacteria TMDL reopener be delayed until the Southern California Coastal Water Research Project (SCCWRP) epidemiological study final results from Surfrider Beach, located at the outlet of MCW, become available, so these results can be considered in setting any revised WLAs. This is a very relevant and important study since it's the only recent local study that tells us: (a) whether swimmers are getting sick at rates above U.S. EPA tolerable levels (and whether this might be due to bather shedding or other uncontrollable pathogen sources), and (b)	Staff does not agree to postpone the MCW Bacteria TMDL reconsideration until spring/summer of 2013. Staff acknowledges the final results of the SCCWRP epidemiological study at the Surfrider Beach may be important for the revision of Bacteria TMDLs. Staff will consider all new material and information brought to our attention at any time and bring the TMDL to the Board for re-consideration if warranted

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		whether fecal indicator bacteria (FIB) are reliable metrics for protecting REC illness rates at a local Santa Monica Bay (SMB) Beach. Preliminary results at Surfrider Beach have found no correlation between illness rates and indicator bacteria concentrations (Griffith 2011). Other recent Southern California beach epidemiological studies have also questioned the correlation between traditional bacterial indicators and human health risks (Colford et al 2005). Furthermore, various freshwater stream studies have found that E. coli in particular originates and grows in soils (Ishii et al 2006, Goto and Yan 2011, Hardin and Fujioka 1991, and Fujioka et al 1998), thereby further questioning this presumed human health linkage for urban runoff impacted receiving waters. Therefore the results of this important SCCWRP epidemiological study at the mouth of the MCW should most certainly affect how REC beneficial use compliance is measured and assessed within a watershed, since the setting of compliance limits is a fundamental component of this TMDL reopener. **Requested Action:** Postpone MCW Bacteria TMDL reopener until final results of the SCCWRP epidemiological study at the Surfrider Beach are available and published (scheduled for spring/summer of 2013).	in the future.
2.2	County of Ventura	**Reconsideration Items** The proposed amendment includes items <u>beyond</u> those specifically listed as reconsideration items in the MCW Bacteria TMDL and 2004 Basin Plan Amendment (BPA). The currently approved MCW Bacteria TMDL text detailing the technical reopener topics includes reconsideration of a possible Natural Source Exclusion (NSE), reassessment of dry/wet exceedance days, re-evaluation of reference	The additional changes proposed by staff, which were not specified for reconsideration in the original TMDL, are intended to improve clarity and consistency. For example, the additional outfall monitoring requirements are

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		year, and reevaluation of geometric mean implementation. This TMDL re-opener text does not include reconsideration of new proposed items which require significant planning and funding on the part of the responsible agencies, or (1) revising and resubmitting previously approved Compliance Monitoring Plans, (2) the addition of outfall monitoring requirements, and (3) daily receiving water sampling, triggered by a waste load allocation (WLA) exceedance, and implemented within 24 hours after receiving lab results. The TMDL reopener should be limited to the technical details that the TMDL specifically identifies for reconsideration, in addition to other important items that do not require significant lead time for planning and funding, such as the three new monitoring monitoring-related items identified above. **Requested Action:** Limit the MCW Bacteria TMDL reopener to consider technical details that the TMDL specifically identified for reconsideration, and only additional important items that do not require significant lead time for planning and funding such as the proposed outfall monitoring or daily monitoring following exceedances.	intended to comport the Ballona TMDL with the Los Angeles River and Santa Clara River Bacteria TMDLs. Staff continues to recommend that the TMDL reconsideration include the changes to improve clarity and consistency.
2.3	County of Ventura	**Proposed Daily Sampling Investigation** If the number of reported single sample exceedance days is greater than the allowable number of exceedance days, the water body is considered out-of-compliance. The proposed amendment requires when a water body is out-of-compliance, the responsible agencies must implement, within 24-hours of receiving analytical results, an investigation including daily sampling until all single sample events meet the objectives. As described in Comment #2, we request daily monitoring not be triggered within 24-hours. This was not a scheduled reconsideration item and this effort	Staff agrees to remove the follow up monitoring requirement from the TMDL. (Although, it should be noted that this monitoring was already required by the TMDL, and was not added as part of this reconsideration.) Staff believes that the outfall

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		would require long-term planning that would be a significant burden on staff and fiscal resources not available for this purpose. We therefore request that instead of daily sampling, that a one-time source identification study be conducted, which would ultimately serve as a more valuable tool in identifying and eliminating sources of bacteria to the creeks. If the LARWQCB insists on keeping the daily sampling requirement, we request that the purpose and intent of daily sampling be clarified. Also, rather than implementing daily sampling immediately, exceedances beyond allowable should first trigger an investigation plan, laying out the approach for identifying and addressing sources, which will be much more valuable than immediate daily instream sampling. Mobilizing a team to begin daily sampling within 24 hours for an undetermined length of time is anticipated to be an extreme burden on resources. Furthermore, the end point for daily sampling should be better clarified, as is currently unclear as to when "all single sample events [would] meet the objectives." We also request clarification that, if LARWQCB insists on daily sampling requirement, then weekends, holidays, and days with unsafe conditions will be excluded. **Requested Action:** Remove proposed requirement for the daily monitoring as a follow-up to exceeding the WLAs, with a source identification study to be conducted in its place.	monitoring is more useful to identify the sources of bacteria, as well as to demonstrate MS4 compliance with waste load allocations and exclude any potential contributions from other sources outside the MS4 system. Staff proposes to strike the 4th paragraph in the Monitoring section on page 9. (Paragraph starts with "If a single sample shows …" and ends with "… meet bacteria water quality objectives"). Staff proposes to modify the 3rd paragraph, to clarify how outfall monitoring will be used to determine whether or not bacterial sources originating within the jurisdiction of the responsible agency have caused or contributed to the in-stream exceedance. In paragraph 3: "…Responsible jurisdictions or agencies shall not be ~~required to initiate an investigation detailed in the next paragraph if a demonstration is made~~ *deemed non-attaining if the outfall monitoring described in the paragraph above demonstrates* that bacterial sources originating within the jurisdiction of the responsible agency have not caused or

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			contributed to the exceedance." This change makes the Malibu Creek TMDL consistent with the Ballona Creek, Los Angeles River and Santa Clara River Bacteria TMDL monitoring requirements.
2.4	County of Ventura	**Proposed Outfall Monitoring** The proposed amendment requires the responsible parties to submit an outfall monitoring plan within 6 months of the effective date of the revised TMDL (pages 8-9 of revised BPA). As described in Comment #2, we request that outfall monitoring not be required. This was not a scheduled reconsideration item and would require long-term planning that would be a significant burden on resources which have not been allocated for this purpose. Furthermore, periodic sampling at Municipal Separate Storm Sewer System (MS4) outfalls is not expected to provide any meaningful new information, such as that which would inform source identification. However, if the LARWQCB insists on requiring outfall monitoring, we request that the distinct goal or purpose of outfall monitoring be clarified to justify this additional significant cost. We also request that LARWQCB staff clarify that compliance determination will be based on the lower of the outfall and instream bacteria concentrations since, 1) If outfalls are lower, then MS4 discharges are not "causing or contributing to" receiving water violations, and 2) if receiving water is lower, then water body would be attaining REC beneficial uses. Lastly, we request that "enhanced outfall monitoring" (BPA page 9) only be triggered when both instream allowable exceedance days and past outfall monitoring data suggest that MS4 outfall concentrations are greater	The additional changes proposed by staff, which were not specified for reconsideration in the original TMDL, are intended to improve clarity and consistency. The additional outfall monitoring requirements are intended to comport the Malibu Creek TMDL with the Los Angeles River and Santa Clara River Bacteria TMDLs. The outfall monitoring will be used to demonstrate MS4 compliance with waste load allocations and will exclude any potential contributions from other sources outside the MS4 system. As stated in the "Compliance Monitoring" section of the BPA, responsible jurisdictions and agencies can use existing outfall monitoring stations in the MS4 permit, where appropriate for both the permit and

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		than instream concentrations. **Requested Action:** Remove proposed outfall monitoring requirement from the draft MCW Bacteria TMDL Reopener.	TMDL objectives, which won't cause a significant burden to responsible jurisdictions and agencies.
2.5	County of Ventura	**Reference System Selection** Page 14 of the draft TMDL staff report says, "The reference system was selected based on all of the freshwater sites in the three SCCWRP studies (except the three minimally impacted sites) because this results in the most robust dataset." This data is included in Appendix C to the draft TMDL staff report. A review of the three SCCWRP studies, in comparison to the raw data provided in Appendix C, has shown that several reference sites were not included in the analysis that was used to determine the allowable exceedance rates. This is the case for both wet and dry weather. We request that the LARWQCB either include all reference sites in the reference system, or clarify which specific sites were selected and why the others were excluded. It is also requested that the "three minimally impacted sites" be listed, along with an explanation of how "minimally impacted" is defined. **Requested Action:** Provide additional transparency as to the selection of the reference stream datasets, as well as a clear definition of "minimally impacted".	As stated in the staff report (page 14), "Of the sites sampled in the FIB Study, three sites (i.e., Cheseboro Creek, Cajon Creek, and Stone Creek) were deemed minimally impacted; as such, data from these three sites were excluded. For example, Cheseboro Creek was subject to a fire and has heavily-used trails and Cajon Creek is nearby a major highway." Stone Creek was found to have 27.5% disturbed land use in its drainage area, including agricultural and rural residential uses. These sites were re-categorized as "minimally impacted" by SCCWRP during data processing because conditions led them to having worse water quality than reference sites. Therefore, staff excluded three minimally impacted sites.
2.6	County of Ventura	**Removal of Fecal Coliform Limits for Fresh Waters** Fecal coliform limits have been removed as numeric targets to maintain consistency with U.S. EPA's recommended criteria. We support the removal of fecal coliform limits for fresh waters.	Comment noted.

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2.7	County of Ventura	**Removal of Clean Compliance Monitoring Locations** The proposed draft revised TMDL does not include a metric by which compliance monitoring can be discontinued and WLAs removed at compliance locations (e.g., landuse basis, consistently better water quality than reference system, etc.). We request that compliance monitoring be discontinued and WLAs be removed from the Compliance Monitoring Plan, at a minimum, for the following four clean upper watershed compliance monitoring locations: Cheeseboro/Palo Comado (MCW-9), Upper Las Virgenes (MCW-8b), Potrero Creek (MCW-17), and Hidden Valley (MCW-18). Compared to the Arroyo Sequit reference watershed, which is 98% undeveloped open space, the Cheeseboro and Upper Las Virgenes watersheds are 95% and 99% undeveloped open space, respectively. By comparison, the draft TMDL staff report (page 14) states that one of SCCWRP's selection criteria for reference watersheds is >=95% undeveloped. Furthermore and most importantly, since monitoring began in March 2008 (so based on three continuous years of compliance monitoring results), the Cheeseboro and Hidden Valley compliance monitoring locations have met the existing wet, summer dry, and winter dry weather allowable exceedance days, and the Upper Las Virgenes compliance monitoring location has met the existing wet weather allowable exceedance days. The Potrero Creek compliance monitoring location has also demonstrated consistently excellent water quality, meeting the existing wet and winter-dry allowable exceedance days for three straight years, and meeting the proposed dry (summer plus winter) allowable exceedances days (see Comment #13) with no more than 3 weekly dry samples exceeding in a year. In addition, discharges from Hidden Valley (MCW-18) and Potrero Creek	In Table 2 of the staff report, the single sample exceedance rates for MCW-8b (50% for wet weather, 25% for winter dry-weather, and 45% for summer dry-weather) and MCW-17 (25% for wet weather, 9.4% for winter dry-weather, and 15% for summer dry-weather) are higher than the single sample exceedance rate allowed by the TMDL adopted by Resolution R04-019R (22% for wet weather, 3% for winter dry-weather, and 0% for summer-dry weather). Furthermore, most of the samples could not be collected at MCW-9 and MCW-18 due to insufficient flow. These sites did not demonstrate that they had met bacteria water quality objectives or that they should be removed as compliance monitoring sites. Furthermore, the TMDL requires that each subwatershed shall include at least one sampling station. Therefore, staff disagrees to remove these sites from the current compliance monitoring locations.

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		(MCW-17) flow into Westlake Lake, which acts as a hydrologic break between the Hidden Valley and Potrero Creek subwatersheds and any downstream water bodies. Per the 2008 303(d) list, Westlake Lake is not impaired for bacteria. The Source Assessment section of the Staff Report did not identify Westlake Lake as source of bacteria and the model (HSPF) used under the Linkage Analysis section to predict bacteria concentrations in the 303(d) listed water bodies did not include this lake because it was not considered a source of bacteria (Staff Report, page 29). Since the Westlake Lake historically has not been source of bacteria and continue to not be source of bacteria, and it acts as hydrologic break between the Hidden Valley and Potrero Creek subwatersheds and downstream water bodies, monitoring as well as the other Bacteria TMDL elements for the Hidden Valley and Potrero Creek subwatersheds should be discontinued. **Requested Action:** Remove MCW-9 (Cheeseboro/Palo Comado), MCW-8b (Upper Las Virgenes), Potrero Creek (MCW-17), and Hidden Valley (MCW-18) from the Compliance Monitoring Plan and discontinue monitoring at these locations.	
2.8	County of Ventura	**Compliance Dates** Original dry weather deadlines were January 24, 2009 for summer-dry and January 24, 2012 for winter-dry. These seasons have now been combined into one single dry-weather period with a deadline of January 24, 2012 (page 14 of the BPA). Page 7 of the BPA incorrectly lists January 24, 2009 as the dry-weather compliance date. In addition, the amendment proposed to extend wet-weather compliance deadline from January 24, 2016 to July 15, 2021. We request that the error on page 7 of the BPA be revised to reflect the January 24, 2012 dry-weather compliance date…. New dry-weather BMPs and studies have been added	The compliance date for the dry-weather period has been revised with a deadline of January 24, 2012. Page 9 of the Basin Plan amendment will be revised to reflect this correction. Staff acknowledges that several BMPs have been or will be implemented by the County of Ventura. However, in order to

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		including residential fertilizer use education, golf course outreach and inspection programs, Phase I media filter retrofits in the Upper Medea subwatershed, and dry-weather source investigations in subwatersheds exceeding bacteria WLAs. At least two years will be required to implement these BMPs and studies, and therefore we request that the dry-weather compliance date be extended to January 24, 2014. **Requested Action:** We support extension of wet-weather compliance deadline to July 15, 2021, and request additional extension of the dry-weather compliance deadline to January 24, 2014.	improve the water quality of Malibu Creek, Lagoon, and adjacent beaches and protect public health, staff disagrees with extending the dry-weather compliance date until January 24, 2014. The existing dry-weather compliance deadline was approved by the Regional Board after a lengthy public participation process, and considering all stakeholder input and the nature of the Malibu Creek watershed.
2.9	County of Ventura	**TMDL Critical Year** The number of wet and dry days per year, to which the allowable percentage is applied to get the allowable number of both wet and dry weather exceedance days per year, is based on the 90th percentile year (1993) in terms of the number of wet weather days. The use of a conservative year to approximate the number of wet weather days should similarly be applied to dry weather days. The use of 1993, a wet year, to approximate the number of dry weather days results in an unfair underestimate of the number of allowable dry weather exceedance days. We request that similar to the wet weather approach, the 90th percentile "dry year" should be used to approximate the number of dry days used in the calculation of the number of allowable dry weather exceedance days. If the LAX rain gage is used (see Comment #11 below requesting alternate rain gage), the 90th percentile critical year, based on the number of dry days, should be 1948 and the number of dry days should be 330. **Requested Action:** Use the 90th percentile "dry year" to approximate the number of dry days used in the calculation of the number of allowable dry weather exceedance days.	The requested action was not noticed for public comment and is beyond the scope of the TMDL reconsideration. Furthermore, as stated in the BPA in "Seasonal Variations and Critical Conditions", "The critical condition for this bacteria TMDL is wet weather generally…. " Exceedance rates increase significantly in wet weather in comparison with dry weather and this is why wet-weather is the critical condition. Therefore, staff disagrees to use the 90th percentile dry year to set the number of dry days.

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2.10	County of Ventura	**TMDL Rain Gage** Data from the LAX rain gage is used to determine the number of wet and dry days for MCW, and ultimately the number of allowable exceedance days. MCW is located in a relatively mountainous area, with elevations ranging from sea level at the outlet to approximately 3,000 feet in the upper watershed. The LAX rain gage is located at an elevation of approximately 97 feet. Furthermore, the LAX gauge is orographically separated from the MCW by the Santa Monica Mountains, therefore weather patterns there differ. The number of wet and dry days derived at the LAX gage does not take into account the orographic effect on rainfall patterns in MCW, and therefore underestimates the number of wet days per year. The Zuma Beach rain gage, which is discussed in the staff report as an alternate gage, is also located near sea level and would similarly underestimate the number of rain days. We recommend instead using the Lechuza Patrol Station (NCDC gage No. 44867) to determine the number of wet days used in the WLA calculations. This site is located at elevation 1600 feet and is located nearer the MCW, in the Santa Monica Mountains. We request that the number of wet days and dry days used in the allowable exceedance days calculations be based on the 90th percentile year (see Comment #1 0 above) at the Lechuza gage, rather than the LAX gage. At the Lechuza gage, the 90th percentile wet year is 1973 with 89 wet days, and the 90th percentile dry year is 1959 with 331 dry days. **Requested Action:** We request that the number of wet days and dry days used in the allowable exceedance days calculations be based on the 90th percentile wet and dry years, respectively, at the Lechuza gage (elevation 1600 feet) instead of the LAX gage (elevation 97 feet). Alternatively, if the LARWQCB does not agree, we request that the record at the Agoura	The requested action was not noticed for public comment and is beyond the scope of the TMDL reconsideration. Staff disagrees to use the rain fall data from the Agoura gage (elevation 800 feet) in replace of the rain fall data from the LAX meteorological station to determine the 90th percentile storm year. Staff agreed to allow responsible jurisdictions to use the Agoura gage for purposes of compliance monitoring, but not to determine the critical year. The LAX station is more representative of the lower watershed and is consistent with the gage used to set the critical year for the adjacent beaches.

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		gage (elevation 800 feet), which is used in wet/dry day determination per our approved Compliance Monitoring Plan, be analyzed in place of the LAX record to determine the 90th percentile number of wet and dry days.	
2.11	County of Ventura	**Remove Single Sample WLAs** The single sample limits are derived from the single sample maximum for REC-1 beneficial use based on the reference system and anti-degradation approach. We request that single sample WLAs be removed from the MCW Bacteria TMDL Reopener as compliance limits. Boehm (2007) found indicator bacteria concentrations to vary over short time scales; in some cases, changes between consecutive samples collected one to ten minutes apart were found to be greater than the single sample limit. The study recommends that multiple, rather than single, samples be used to form an accurate snapshot of water quality. The removal of single sample limits is also consistent with the recent draft Santa Ana Regional Water Quality Control Board (SARWQCB, 2012) Basin Plan Amendment which removes single sample limits and only keeps the geometric mean limits (SARWQCB, 2012). The U.S. EPA report further states because fecal indicator bacteria are highly variable in environmental waters, distributional estimates are more robust than single point estimates. Page 19 of the staff report also acknowledges, "The geometric mean is a more reliable measure of long term water quality than single sample criteria. It is also directly linked to the underlying epidemiological studies upon which the bacteria water quality objectives were based." In general, single sample exceedances - especially based on wet weather grab sample data, and especially for bacteria which concentrations known to vary over orders of magnitude - are unreliable means of assessing whether water quality at a compliance monitoring location is statistically different than a reference site, at an acceptable level of confidence.	The requested action was not noticed for public comment and is beyond the scope of the TMDL reconsideration. Furthermore, staff disagrees to remove single sample WLAs because several epidemiological studies indicate these targets are the most appropriate indicators of public health risk in recreational waters.

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		Requested Action: We request that single sample WLAs be removed from the MCW Bacteria TMDL Reopener as compliance limits, leaving the geometric mean *E. coli* limit in place as a compliance limit as this is most protective of public health and consistent with U.S. EPA REC criteria guidance.	
2.12	County of Ventura	**Revise Single Sample WLAs using Reference System Approach** While the current MCW TMDL relied on the Leo Carrillo reference beach to set allowable single sample exceedance rates (0% for summer-dry, 3% for winter-dry, and 22% for wet), the proposed draft reopener now utilizes the average exceedance rate across SCCWRP reference streams (1.6% for dry and 19% for wet). Based on the data provided in Appendix C of the staff report, four of the 23 dry weather reference streams exceed more frequently than the 1.6% average in dry weather (ranging from 0-23% exceedance rates among the 23 sites sampled), and six of the 12 wet weather reference streams exceed more than the 19% average in wet weather (ranging from 0-100% exceedance rates among the 12 sites sampled). Five of the 12 sites sampled during wet weather only had one sample collected, with exceedance rates of either 0% or 100%. If LARWQCB staff decide to keep the single sample based WLAs (see Comment #12), we request the WLAs be revised to account for natural water quality variability. This is accomplished by setting the allowed rate to the 90th percentile stream (similar to how the LARWQCB set the number of wet days to account for hydrologic variability), rather than the average of all stream data combined, and only evaluate reference systems with at least 3 samples. As shown in Attachment 1, due to the removal of sites with fewer than 3 samples, the number of wet weather reference sites would decrease from 12 to 6 and the number of dry weather reference sites would decrease from 23 to 19. The 90th percentile allowable exceedance rates would then be 64% during wet weather and	Staff believes that using all of the reference streams in the three SCCWRP reference studies (except the three minimally impacted sites) provides a more robust data set and accounts for natural variability better than using just one stream.

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		9% during dry weather. We therefore request these allowable exceedance rates. **Requested Action:** We request the WLAs be revised to account for natural water quality variability by setting the allowed rate to the 90th percentile stream instead of the average of all stream data combined, and only evaluate reference systems with at least 3 samples. This methodology results in allowable exceedance rates of 64% during wet weather and 9% during dry weather.	
2.13	County of Ventura	**Revise Single Sample WLAs using Statistical Threshold Value** The single sample limits are derived from the single sample maximum for REC-1 beneficial use based on the reference system. If LARWQCB staff do not agree with Comments #12 or 13, alternatively, we request that instead of using the single sample maximum to derive the WLA, use the U.S. EPA Draft Recreational Water Quality Criteria (2011) 75th percentile statistical threshold value (STV) which was computed based on the water quality variance observed during U.S. EPA's epidemiological studies and allows a 25% exceedance rate. **Requested Action:** We request that instead of using the single sample maximum to derive the WLA, use the U.S. EPA Draft Recreational Water Quality Criteria (2011) 75th percentile statistical threshold value (STV), which allows a 25% exceedance rate.	The requested action was not noticed for public comment and is beyond the scope of the TMDL reconsideration. Staff disagrees with using the 75th percentile statistical threshold value (STV), which allows a 25% exceedance rate, which is a higher exceedance rate than seen in local reference systems. The reference beach approach used in this region is more site specific than the generic 25% allowable exceedance rate in USEPA's draft criteria. This Regional Board applies a fecal-indicating bacteria target both for the maximum value and for geometric mean to be protective of public health.

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			In addition, this Regional Board uses a reference beach approach which is more site specific than the generic 25% in USEPA's draft criteria. Use of a generic 25% exceedance rate instead of the reference beach approach has not been considered for this action, has not been noticed for public comment and is outside the scope of this reconsideration.
2.14	County of Ventura	**Reference System Approach- Weekly Sampling Allowable Exceedance Days** During wet weather, the number of annual allowable exceedance days at all stations is 15 for daily sampling. The weekly sampling analog is 2 days. The number of annual allowable exceedance days under daily sampling should be 3, not 2.15 days divided by 7 days per week equals 2.14 days under weekly sampling. Based on the rounding methodology used in the staff report, 2.14 should be rounded up to the next whole number because the fractional remainder exceeds 1/10th. Therefore, we request that the number of allowable exceedance days for weekly sampling be increased from 2 to 3 at all Ventura County compliance monitoring sites, consistent with the original TMDL. **Requested Action:** We request the number of dry weather allowable exceedance days for weekly sampling be increased from 2 to 3 at all Ventura County compliance monitoring sites, consistent with the currently effective MCW Bacteria TMDL.	The method for calculating the number of allowable exceedance days for weekly sampling is not to divide the number of allowable daily exceedance days by 7, but rather to use the number of wet-weather days to calculate the number of analogous wet-weather weeks using equation 3.3 in the staff report. As stated in staff report (1st paragraph, page 17), "For wet weather, y equals 10.7 multiplied by 0.19, results in two (2) exceedance days (2.03 rounded to the previous whole integer) during wet weather when weekly sampling is conducted." Therefore, staff disagrees that the number of dry

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			weather allowable exceedance days for weekly sampling should be increased from 2 to 3.
2.15	County of Ventura	**Geometric Mean Methodology** Similar to the currently effective MCW Bacteria TMDL, no exceedances are allowed for the geometric mean limits. The draft TMDL geometric mean calculation does not distinguish between wet and dry weather days. We request the geometric mean calculation be applied to dry weather days only. This is consistent with the bacteria TMDL geometric mean limits expressed in the Draft San Diego County MS4 Permit (SDRWQCB, 2012). This approach is further supported by our own analysis of the reference stream data contained in Appendix C of the draft staff report, which found that of the 12 wet weather reference streams cited in the draft staff report (Stein and Yoon, 2007, Tiefenthaler et al, 2008, and Schiff et al, 2005), the geometric mean of the consolidated E. coli data at both Leo Carrillo and San Onofre sites exceed the 126 MPN/100mL limit. This is also supported by the fact the geometric mean statistic is inherently intended to characterize chronic conditions, rather than episodic acute periods of excursion as would be expected during wet weather. Finally, recreational uses and public exposure to creek waters would be expected to be greatest during dry weather when creek flow and accessibility conditions are safest; therefore this clarification is expected to continue to be protective of public health and beneficial uses. **Requested Action:** We request the TMDL clarify that the geometric mean is to be calculated based on dry weather compliance monitoring data only.	The geometric mean applies in both dry and wet weather. Strict application of the geometric mean during dry weather only may not accurately characterize background conditions, especially in Southern California where recreation occurs regardless of seasonality and weather. Geometric means express the overall risk of exposure during a longer period including dry and wet weather, if any, and a dry weather-only calculation is artificial. USEPA's draft Recreational Water Criteria (USEPA, 2011) recommends use of both wet and dry weather, stating, "Sampling of waterbodies should be representative of meteorological conditions (e.g., wet and dry weather)."

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2.16	County of Ventura	**Geometric Mean Calculation Periods** Rolling geometric mean changed from daily to weekly calculation (5 or more samples, all calculations begin on Sunday), over a six week period, rather than a 30-day period. The draft TMDL staff report (beginning on page 19) uses Enterococcus results at the Leo Carrillo reference beach to support this change in methodology. We support changing the rolling 30-day geometric mean approach, but suggest the following improvements: I. If LARWQCB is opposed to setting an allowed geometric mean exceedance rate (per Comment #16), we suggest an alternative that meets the need of minimizing exceedances at the reference beach, while still being consistent with U.S. EPA's draft recommended REC criteria (which allow up to 90 day geometric mean averaging periods). For consistency with the draft TMDL staff report, our geometric mean averaging period recommendations are based on Enterococcus data from the Leo Carrillo reference beach, rather than E. coli data for reference streams. The LARWQCB's current proposed 6-week rolling average geometric mean calculation approach results in substantial exceedance at the Leo Carrillo reference beach (up to exceedance rates of 47% in a year), as shown in Attachment 2. We alternatively suggest a "hybrid" approach, consisting of monthly (calendar, not rolling) geometric mean during the AB411 period (Apr - Sept) and two 75 day geometric means during November through March. This would help to avoid confusion for reporting, compliance assessment, and enforcement	Staff does not agree with applying the proposed hybrid approach. Most portions of the hybrid approach discussed by the commenter have been examined and discussed in the staff report. Staff have identified and discussed both the advantages of shortcomings of a rolling versus discret geometric means. Also, as discussed in the staff report (page 28), “to identify water quality impairment, the rolling geometric mean calculation is preferred. This is consistent with the discussion of listing and delisting decisions in the Functional Equivalent Document for the State Water Resources Control Board (SWRCB) 2004. Water Quality Control Policy for Developing California’s Clean Water Act Section 303(d) list. Sept. 30, 2004.” Staff disagrees that Malibu Creek, Malibu lagoon, and adjacent beaches are non-wastewater impacted or that the bacteria sources are primarily non-human.

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		penalty determination purposes. This is also generally consistent with the approach presented to us by LARWQCB staff during our January meeting on the MCW TMDL reopener at your office. Based on 2003-2011 monitoring data at Leo Carrillo (Attachment 2), this would result in fewer geometric mean exceedances at the reference beach. This change would still be protective of human health since it is specifically the geometric mean limit that is linked to human health in the USEPA REC criteria guidance, primarily based on epidemiology data from wastewater impacted beaches. However, applying this geometric mean limit at non-wastewater impacted beaches is an unnecessarily stringent approach since recent peer-reviewed quantitative microbial risk assessment (QMRA) work by U.S. EPA's contractor (Soller et al 2010), and U.S. EPA (Schoen 2010) shows that the geometric mean limit can be greatly increased at beaches where bacteria sources are primarily non-human, while still being protective of the U.S. EPA's tolerable illness rates (8 per thousand swimmers), as shown in Figure 1 from Schoen (2010). **[See the County of Ventura comment letter for Figure 1.]** **Requested Action:** We request a "hybrid" approach, consisting of monthly (calendar, not rolling) geometric mean during the AB411 period (April through September), and two 75 day geometric means during November through March.	
2.17	County of Ventura	II. Clarification is needed on how a rolling geometric mean should be computed for locations that don't have weekly data (e.g., many subwatersheds that don't flow during dry weather). We recommend excluding no-flow days from geometric mean	The commenter is correct regarding no-flow days. If a no-flow condition is recorded and there are not enough sample data for geometric mean

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		calculation, however it should be noted there may be instances when, due to no-flow conditions, there are less than 5 samples in any 6-week geometric mean period. In these instances no violation should be recorded, as the geometric mean cannot be computed or reported. **Requested Action:** We request excluding no-flow days from geometric mean calculation and if geometric mean cannot be computed or reported, do not consider a violation.	calculation, then no violation should be recorded, as the geometric mean cannot be computed or reported.
2.18	County of Ventura	III. "Compliance Monitoring" section of the Draft MCW Bacteria TMDL Reopener does not explicitly state how water body compliance (e.g ., number of days in violation) will be determined with respect to the geometric mean, and whether this would be counted in addition to (versus redundant with) single sample based exceedances. Clarification is requested, particularly if any exceedance of the geometric mean limit causes a water body to be out-of-compliance. **Requested Action:** We request clarification how compliance will be assessed and violation days computed based on the geometric mean results.	As stated in the "Waste Load Allocations" and "Load Allocations" sections of the BPA, "No exceedances are allowed for the geometric mean limits." If the number of the calculated geometric mean for a water body segment is greater than the allowable geometric mean limits, the water body segment shall be considered out-of-compliance with the TMDL. These exceedances would be in addition to any exceedances of the single sample limits.
2.19	County of Ventura	**Non-Detect Value Substitution for Geometric Mean Calculation** As discussed in the staff report, the substitution of any value for a non-detect (ND) result must be supported and submitted to the Board in a revised Monitoring Plan. At this time all ND results are required to substitute the detection limit (DL) in geometric mean calculations, which will overestimate the geometric mean, particularly where exceedance frequencies are low. As described in the staff report (page 29) for marine	Malibu Creek responsible parties must conduct their own study to determine the appropriate value to use when samples are below the detection limit. The value calculated by Jurisdictional Groups 5 and 6 may not be applicable

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		sites, the Jurisdictional Groups 5 and 6 (J56 cities) for the SMB Beaches Bacteria TMDL have suggested a ND substitution value of 3. 7 MPN/100mL be used as the Enterococcus value in the geometric mean calculations when the Enterolert result is less than the detection limit of 10 MPN/100mL. For Malibu Lagoon, it is recommended 3. 7 MPN/100mL be written into the MCW TMDL as an allowable ND result substitution for Enterococcus. For freshwater, it is requested that an option be written into the TMDL for the responsible parties to submit a request for an alternate E. coli ND substitution value. In the interim, half of the detection limit for E. coli is requested as an ND substitution value until another value, proposed to and approved by the LARWQCB, can be substituted. Looking at Enterococcus, using half of the detection limit (10 MPN/100mL) would be a conservative approach given that 5 MPN/100mL is greater than the recommended 3. 7 MPN/100mL. **Requested Action:** We request an option for responsible parties to submit data supporting a ND substitution be written into the TMDL. We also request using half of the detection limit for E. coli until a special study-based site specific value can be proposed to and approved by the LARWQCB.	to Malibu Lagoon. In addition it is not necessary to include non-regulatory language in the TMDL specifying an alternative non-detect substitution value. Instead, the issue of non-detect data can be addressed through the monitoring plan.
2.20	County of Ventura	**Compliance Monitoring Completion Trigger at Clean Subwatersheds** The staff report has no discussion of how the responsible party would go about the process of eventual removal of compliance monitoring locations in compliant subwatersheds. We request to include an end point for monitoring at locations that are in compliance for three consecutive years. If dry and/or wet weather results meet allowable exceedance days for three straight years at a monitoring location, jurisdictions should be allowed to discontinue dry and/or weather monitoring at that location, with LARWQCB review and approval of a revised Compliance	Staff proposes that if the monitoring data at a compliance monitoring location meet the bacteria water quality objectives for three consecutive years, the frequency of monitoring at this monitoring location can be reduced in the Compliance Monitoring Plan. However, if there is no sufficient flow

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		Monitoring Plan indicating such changes. **Requested Action:** Include a monitoring discontinuation provision for locations that are in compliance for three consecutive years in the MCW Bacteria TMDL reopener.	(dry) observed over half of the monitoring period at a compliance monitoring location, the responsible party shall continue monitoring at this site or switch to a site with sufficient flow over at least half of the monitoring period.
2.21	County of Ventura	**Items for Future Reconsideration** A future reopener date is not included and no specific items for future reconsideration are listed. A reopener should be included three years from the effective date of the revised TMDL, for reconsideration of the following: • Low and/or high flow REC suspensions or usage frequency adjustments based on Use Attainability Analysis (UAA) study of existing REC uses or safety considerations; • Site specific REC objectives based on quantitative microbial risk assessment (QMRA) or epidemiological study results; • NSE WLAs based on microbial source tracking (MST) results, showing no or minimal human or anthropogenic sources present; • Revised exceedance rates based on new reference stream results; and • Other items, including items requested in this comment letter, if requests are not granted. **Requested Action:** We request inclusion of another reopener three years from the effective date of the revised TMDL.	Staff acknowledges that other aspects of the TMDL may need to be reconsidered, especially as the science continues to develop. Staff will consider all new material and information brought to our attention at any time and bring the TMDL to the Board for re-consideration if warranted. For this reconsideration currently before the Board, staff is not recommending that a mandatory re-consideration of the TMDL be put in the implementation schedule.
2.22	County of Ventura	**Reasonable Assurance Plan based Compliance Option** There is no alternative to the numeric based compliance pathway,	The staff report (page 9) stated that

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		however page 9 of the reopener staff report cites the potential for a responsible party to pursue action-based interim limits in the MS4 Permit, beginning with the submittal of a Reasonable Assurance Plan (RAP). The Draft Los Angeles County MS4 Permit, and Washington State Department of Ecology's Draft Industrial Stormwater General Permit and MS4 General Permit all include action-based pathways as alternatives to the numeric-based compliance pathway for bacteria. The draft Los Angeles County MS4 Permit currently includes a compliance option for a reasonable assurance program, which would provide the Board reasonable assurance that the alternative requirements would provide equal or greater reduction in storm water discharge pollutant loading as would have been obtained through compliance with certain control criteria. The recently proposed modifications to Washington State's Industrial Stormwater General Permit (Department of Ecology, 2012) would similarly revise the draft effluent limits for fecal coliform by replacing the draft numeric standard with BMP-based requirements. The permittees may be required to implement a new set of BMPs including methods to prevent wildlife from feeding, nesting, or roosting at the facility, annual dry weather inspections to address potential sewer cross-connections, and structural control of any on-site bacterial sources. Washington State's MS4 General Permit also includes action-based limits for compliance with bacteria TMDLs. We therefore request that the revised MCW Bacteria TMDL state that MS4 Co-Permittees may choose an action-based compliance pathway as an alternative to the numeric based compliance pathway. **Requested Action:** We request that the revised MCW Bacteria TMDL provides an action-based compliance option as an alternative to the numeric based compliance for the MS4 Co-Permittees.	"through implementation of the Los Angeles County MS4 permit, the Regional Board can ensure that responsible parties are implementing the integrated approaches that they have outlined in their implementation plans. For example, if a responsible party intends to pursue action-based interim limits in the MS4 permit, they must submit and obtain approval of a reasonable assurance plan, and then they must implement that plan, subject to enforcement and/or numeric effluent limits. Through this process, the Regional Board can ensure that responsible parties are making timely progress towards achieving TMDLs." Therefore, the TMDL is not the appropriate place to provide an action-based compliance option as an alternative to numeric-based compliance for the MS4 Co-Permittees. The Reasonable Assurance Plan (RAP) option will be included in the MS4 permit.

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2.23	County of Ventura	**Ventura County Watershed Protection District (VCWPD)** The current MCW Bacteria TMDL does not list VCWPD as a stand-alone responsible party, however this agency is added to the Draft MCW Bacteria TMDL Reopener (pages 5 and 9). VCWPD is not listed in the currently approved and effective MCW Bacteria TMDL, which lists the County of Ventura but not VCWPD as a responsible party. The County of Ventura includes all divisions, districts, and agencies, so it is redundant to also list the VCWPD or any of these other groups as responsible agencies. Additionally, as shown in Attachment 3, VCWPD facilities within the MCW are limited to four stretches of improved channel within the City of Thousand Oaks. These small and disconnected facilities, which correspond to monitoring site MCW-17, represent flow from a small portion of the subwatershed, and are *de minimis* in any FIB loads. Additionally, all VCWPD open channels are improved (concrete or rip-rap) and are not themselves a source of bacteria. For the many reasons above, we believe it is inappropriate to include the VCWPD. We request it be deleted as a responsible party. **[See the County of Ventura comment letter for Attachment 3.]** **Requested Action:** Do not include VCWPD as a stand-alone responsible party in the MCW Bacteria TMDL Reopener.	Staff acknowledges that the County of Ventura includes all divisions, districts, and agencies. However, to be consistent with the Harbor Beaches of Ventura County Bacteria TMDL and other TMDLs adopted throughout the region, the VCWPD is listed as a responsible party.
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3.1	City of Thousand Oaks	**Six-Week Rolling Geometric Mean Calculation Method is not Consistent with EPA Guidance or the State's 303(d) Listing Policy** The United States Environmental Protection Agency (EPA), in its 2012 Draft EPA Recreational Water Quality Criteria (Draft Criteria)	Staff disagrees that the six-week rolling geometric mean is inconsistent with the

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		document, clarified the mechanism for the use and calculation of the geometric mean criteria. Since the epidemiological data that formed the basis for the new criteria were evaluated on a seasonal basis, EPA now recommends a duration of between 30 and 90 days for calculating the geometric mean on a seasonal basis (e.g., a swimming season). Therefore, the geometric mean objectives in the Draft Criteria are not intended to be calculated over a rolling timeframe, but rather over a set time period (e.g., seasonal basis). A calculation method was presented by Regional Board staff during the March 19, 2012 meeting for calculating geometric means in the revised Bacteria TMDL that was consistent with EPA guidance from the Draft Criteria document. The scenario involved using seasonal geometric mean calculation timeframes with monthly geometric mean calculations during summer months (May, June, July, August, September, and October), one geometric mean calculation for November and December, one geometric mean calculation for January and February, and another geometric mean calculation for March and April. This scenario is consistent with the Draft Criteria document in that the geometric mean calculation timeframes are between 30 - 90 days and encompass seasonal usage and attributes. The City fails to understand how the proposed changes to calculating the geometric mean in the Numeric Target section of the revised Bacteria TMDL do not reflect, in any manner, what Regional Board staff presented at the March 19, 2012 meeting. As currently proposed, the geometric mean is to be calculated weekly as a rolling geometric mean using five or more samples, for six-week periods, starting all calculation weeks on Sunday. The most recent	State Listing Policy or US EPA's Draft Recreational Water Quality Criteria. USEPA has given states discretion to consider discrete calendar or seasonal geometric means and the Draft Criteria document does not specify rolling or discrete geometric means. A rolling geometric mean may in some cases determine a waterbody does not meet standards when it does. Alternatively, a discrete geometric mean can in some cases, arbitrarily split a period of low water quality such that the geometric mean calculation determines the waterbody does meet water quality standards when there was a period when it did not. In the superior interest of not failing to identify water quality impairment, the rolling geometric mean calculation is preferred. As discussed in the staff report (page 28), "…to identify water quality impairment, the rolling geometric mean calculation is preferred. This is consistent with the discussion of listing and delisting decisions in the Functional Equivalent Document for the State

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		week is added while the seventh week previous is dropped. This "rolling" determination method for calculating the geometric mean does not reflect the guidance from the EPA in the Criteria document that the geometric mean should be calculated on a seasonal basis, and that the geometric mean is not intended to be used as a rolling geometric mean, but rather as an evaluation of data over consecutive determinate seasons. In addition, using a six-week rolling geometric mean calculation method is not consistent with the State's 303(d) listing policy. Such a determination leads to revised Bacteria TMDL goals that are inconsistent with the method that is used to determine if a TMDL is necessary. However, using a seasonal geometric mean calculation method would be consistent with the 303(d) listing policy. Furthermore, there is no technical or policy basis for selecting a rolling six weeks as the timeframe for calculating the geometric mean. The City believes that calculating the geometric mean using the six-week rolling average method does not appropriately characterize risks to human health and unnecessarily increases the number of potential exceedances without altering the risk to public health. Use of such a formula would seem intended to continue to factor in outlier data points in multiple determinations, strictly for escalating enforcement opportunities. This formula is not a benefit to managers or regulators in efforts to control water quality or to potential users of water recreational opportunities. Changing the language in the revised Bacteria TMDL from the six- week rolling average geometric mean calculation method to a seasonal calculation method will not decrease human health protection or even the number of potential beach posting and closure procedures which are governed by California Code of	Water Resources Control Board (SWRCB) 2004. Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) list (Sept. 30, 2004)."

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		Regulations, not the revised Bacteria TMDL. Changing the language in the revised Bacteria TMDL would also bring the revised Bacteria TMDL into alignment with the EPA Criteria document and with the State's 303(d) listing policy. Therefore, the City recommends that Regional Board staff change the geometric mean calculation language of the Numeric Target section of the revised Bacteria TMDL to include seasonal geometric mean calculations and remove the six-week rolling geometric means.	
3.2	City of Thousand Oaks	**Proposed Monitoring Requirements are not Conducive to Guiding Management Decisions Related to Improving Water Quality** The City believes the proposed monitoring requirements included in the revised Bacteria TMDL are outside the scope of the items the Regional Board was to reconsider during the reopener period as documented in Table 7-10.3. In addition, there was absolutely no mention of revising the compliance monitoring requirements during the March 19, 2012 meeting with Regional Board staff. Under the revised Bacteria TMDL, if a creek location is out of compliance, then the responsible agencies must initiate daily sampling in the receiving water body, or existing monitoring location, within 24 hours of receiving the analytical data, until all single samples meet the bacteria water quality objectives. Based on available water quality data, the daily sampling requirement in the revised Bacteria TMDL would require the responsible agencies and jurisdictions to start daily monitoring at the onset of the revised Bacteria TMDL. The discretional authority of the Regional Board to require daily monitoring has been intentionally omitted. The seven-day-a-week daily sampling as trigger is punitive, grossly	The follow up monitoring was already required by the existing TMDL, and was not added as part of this reconsideration. The TMDL noticed for public comment only included a change to specify when responsible agencies should initiate the follow up monitoring. The additional changes proposed by staff, which were not specified for reconsideration in the original TMDL, are intended to improve clarity and consistency. For example, the additional outfall monitoring requirements are intended to comport the Malibu Creek TMDL with the Los Angeles River and Santa Clara River Bacteria TMDLs.

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		expensive, and serves no benefit to water quality managers attempting to marshal scarce public resources to control bacterial exceedances. Sampling within the receiving water body or at an existing monitoring location in this manner merely provides a 24-hour old, brief snapshot of the water quality at that specific location at that particular point in time. The revised Bacteria TMDL provides no justification or explanation on how daily sampling would help improve water quality, as this type of sampling does not provide useful information, such as identifying the bacterial sources that may have caused or contributed to the exceedance(s). To actually improve water quality, it would be better to focus the City's, and other agencies' modest resources to determine the cause of the water quality problem through upstream source identification monitoring rather than determining in-situ and momentary water quality aspects through daily indicator bacteria sampling. The underlying assumption inherent in the reopener and in this resampling requirement is that the quality of storm drain flows is controllable. In as they are not treated and are composed of a multitude of residential and natural sources, it must be recognized that these flows are not always controllable. Additionally, the revised Bacteria TMDL includes outfall monitoring for demonstrating compliance, which the 2012 Staff Report (pg. 33) states is consistent with the Los Angeles River Bacteria TMDL. However, this is not consistent with the Los Angeles River Bacteria TMDL, as outfall monitoring is optional and only required if a responsible party chooses to utilize an outfall-based Load Reduction Strategy (LRS). The prescriptive monitoring requirements in the revised Bacteria TMDL, including routine outfall monitoring, will force the City to conduct repetitive monitoring that will not help protect or improve water quality. Outfall monitoring to determine	Nonetheless, staff agrees that daily follow up monitoring requirements for Malibu Creek can be changed. Staff proposes to strike the 4th paragraph in the Monitoring section on page 9. (Paragraph starts with "If a single sample shows …" and ends with "… meet bacteria water quality objectives"). Staff proposes to modify the 3rd paragraph, to clarify how outfall monitoring will be used to determine whether or not bacterial sources originating within the jurisdiction of the responsible agency have caused or contributed to the in-stream exceedance. In paragraph 3: "…Responsible jurisdictions or agencies shall not be ~~required to initiate an investigation detailed in the next paragraph if a demonstration is made~~ *deemed non-attaining if the outfall monitoring described in the paragraph above demonstrates* that bacterial sources originating within the jurisdiction of the responsible agency have not caused or contributed to the exceedance." This change makes the Malibu Creek TMDL consistent with the Ballona

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		possible sources of bacteria in the case of an exceedance(s) is a better use of the City's resources than routine outfall monitoring. The City is currently planning to conduct some investigative monitoring in the City's drainage area where the largest numbers of exceedances are being observed to guide management actions. Due to the high cost of daily monitoring, the City would be limited in their ability to conduct both types of monitoring. Therefore, outfall monitoring should only occur as needed by the discharger to inform management decisions to protect and improve water quality, and should not be a required part of routine compliance monitoring. The City recommends that Regional Board staff modify the language in the compliance monitoring section of the revised Bacteria TMDL to remove daily sampling in the case of a single sample exceedance or surpassing of the exceedance days, since this type of sampling provides no guidance or direction for management decisions related to improving water quality. Instead, the revised Bacteria TMDL could include a requirement to submit a revised CMP that includes a process for evaluating the cause of consistent exceedances. The investigation could include monitoring or other approaches as appropriate to evaluate contributions to the exceedances. This approach would allow for the guidance of management decisions related to improving water quality and focus the use of resources on solving the water quality problem.	Creek, Los Angeles River and Santa Clara River Bacteria TMDL monitoring requirements. As stated in the "Compliance Monitoring" of the BPA that responsible jurisdictions and agencies can use existing outfall monitoring station in the MS4 permit, where appropriate for both the permit and TMDL objectives, which won't cause significant burden to responsible jurisdictions and agencies.
3.3	City of Thousand Oaks	**Monitoring and Other TMDL Elements for the City should only be Required for Upper Lindero Creek Subwatershed and Lindero Creek Reach 2** The City is hydrologically separated from the majority of the water bodies within the Malibu Creek watershed, including most of those on	In Table 2 of the staff report for the reconsideration, the single sample

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		the 303(d) list for bacterial impairments. The City's MS4 primarily discharges to three subwatersheds of the Malibu Creek watershed: 1) Potrero Canyon Creek; 2) Westlake Lake; and 3) Upper Lindero Creek. The only water body the City directly discharges to that is on the 303(d) list for bacterial impairments is Lindero Creek Reach 2. Discharges from the City, especially during dry weather, do not affect water bodies downstream of Lake Lindero or Westlake Lake, as all discharge from the City either flow directly into Lake Lindero or into Westlake Lake. Per the 2008 303(d) list, neither Lake Lindero nor Westlake Lake are impaired for bacteria. Westlake Lake and Lake Lindero act as hydrologic breaks between the City and any downstream water bodies, including Lindero Creek Reach 1, Medea Creek Reach 1, Malibu Creek and Malibu Lagoon. In addition to Lake Lindero and Westlake Lake acting as hydrologic breaks, Malibou Lake also acts as a hydrologic break between the City and Malibu Creek and Malibu Lagoon. As a result, flows from Westlake Lake discharge to Malibou Lake through Triunfo Canyon Creek and flows from Lake Lindero discharge to Malibou Lake through Medea Creek. Per the 2008 303(d) list, Malibou Lake is not impaired for bacteria. The Source Assessment section of the Staff Report did not identify the lakes within the Malibu Creek watershed as sources of bacteria and the model (HSPF) used under the Linkage Analysis section to predict bacteria concentrations in the 303(d) listed water bodies did not include lakes because they were not considered sources of bacteria (Staff Report, pg. 29). Since the lakes within the Malibu Creek watershed historically have not been sources of bacteria and continue to not be sources of bacteria, and Westlake Lake, Lake Lindero, and Malibou Lake act as	exceedance frequencies for the dry- and wet-weather periods at Potrero Canyon Creek site (MCW-17) and Westlake site (MCW-15b and MCW-15c) are greater than the allowable exceedance frequencies (1.6% for dry-weather period and 19% for wet-weather period) at the reference sites. Therefore, staff does not agree to remove the above sites from the compliance monitoring sites.

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		hydrologic breaks between the City and downstream water bodies, monitoring as well as the other Bacteria TMDL elements for the City should only be required for the Upper Lindero Creek subwatershed and Lindero Creek Reach 2.	
3.4	City of Thousand Oaks	**Cold Creek Subwatershed should be used as the Freshwater Reference Watershed for the Revised Bacteria TMDL** The revised Bacteria TMDL uses the single sample *E. coli* exceedance probabilities of 0.016 and 0.19 for dry and wet weather respectively, to determine the number of single sample allowable exceedance days. The exceedance probabilities were determined using data from three SCCWRP studies whose goals were to update the freshwater exceedance probabilities for use in the reference watershed approach for allowable exceedance days. Information from all three studies was chosen to provide the most "robust data set," even though the most robust data set does not always equal the most correct data set. Data from reference watershed sites specific to Malibu Creek watershed or the Northern Santa Monica Bay were not solely used to create a data set, because these sites "may not be representative of natural conditions throughout the Malibu Creek watershed" (Staff Report for revised Bacteria TMDL, pg. 15). However, no further justification was provided for this statement. In general, reference sites will not be representative of all conditions in a watershed, because they can only represent one type of water body. This criterion does not seem sufficient to exclude the use of data that is potentially more reflective of local conditions than the grouped data set. One site that has been utilized by SCCWRP in several studies as a reference watershed, the Cold Creek subwatershed located in the Malibu Creek watershed, is representative of the individual subwatersheds that collectively make up the Malibu Creek watershed and should be	As stated in the 2004 staff report (page 18), there are many onsite wastewater treatment systems located in the Cold Creek subwatershed , which can lead to the high single sample exceedance rates in Cold Creek. Therefore, Cold Creek is not an appropriate freshwater reference site. The Listing Policy requires that a reference site should not be impacted by human activity. Furthermore, the staff report provides justification for not choosing sites specific to the Malibu Creek watershed or the Northern Santa Monica Bay. The staff report clearly states that these sites were not chosen from the larger Southern California data because these localized sites are from first order streams and headwaters, or from smaller watersheds, and may not be representative of natural conditions throughout the Malibu Creek watershed.

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		considered for use as the reference watershed for determining the allowable exceedance days in the revised Bacteria TMDL. Compliance monitoring data for the period of March 2008 to September 2011 from Cold Creek (MCW-5) indicate that single sample exceedances of applicable water quality objectives occurred 39 percent of the time during summer dry weather, 27 percent of the time during winter dry weather, and 57 percent of the time during wet weather (Staff Report for revised Bacteria TMDL, pg. 12). If the Cold Creek subwatershed is used as the reference watershed, then the exceedance probabilities for dry and wet weather are 0.33 (average of summer dry and winter dry values) and 0.57 respectively, leading to adjusted dry weather and wet weather allowable exceedance days of 96 and 43 respectively, for daily sampling and 14 days and six days respectively, for weekly sampling (Table 1). **[See the City of Thousand Oaks comment letter for Table1]** The City recommends that, as Cold Creek subwatershed has been utilized as a Southern California reference watershed, and since it is located with the Malibu Creek watershed, the dry weather and wet weather exceedance probabilities for Cold Creek should be used to determine the freshwater allowable exceedance days for the revised Bacteria TMDL.	
3.5	City of Thousand Oaks	**The TMDL should be Modified to Allow for Equivalent Conditions when Determining Compliance** The revised Bacteria TMDL states that the stormwater permittees are individually responsible for the discharges from their MS4s to Malibu Creek, Malibu Lagoon, or tributaries. However, the revised Bacteria	Staff does not believe it is necessary to add the proposed language to the TMDL in order to allow for "equivalent

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		TMDL does not contain language in the waste load allocations (WLAs) section that allows the responsible agencies and jurisdictions to demonstrate individual compliance with the WLAs. In addition, compliance should be determined either through WLAs being met in-stream or at outfalls discharging to Malibu Creek, Malibu Lagoon, or tributaries. The following paragraph provides example language, based on language from the Los Angeles River Bacteria TMDL, which could be incorporated into the WLA section of the revised Bacteria TMDL to clarify how responsible parties can comply with the WLAs. MS4 dischargers can demonstrate compliance with the final WLAs by demonstrating that the final WLAs are met in-stream, or by demonstrating one of the following conditions at outfalls to receiving waters: 1. Zero discharge; 2. Flow-weighted concentration of *E. coli* in MS4 discharges is less than or equal to 235 MPN/100mL, based on a weighted average using flow rates from all measured outfalls; or 3. Demonstration of compliance as specified in the MS4 NPDES permit which may include the use of BMPs where the permit's administrative record supports that the BMPs are expected to be sufficient to attain the WLA in the revised Bacteria TMDL, the use of the calculated loading rates such that loading of *E. coli* to the receiving water is less than or equal to a calculated loading rate that would not cause or contribute to exceedances based on a loading capacity representative of conditions in the receiving water at the time of compliance or other appropriate method.	conditions" for WLA attainment. This language is better included in the MS4 than the TMDL. By including this language in the MS4 rather than in specific TMDLs, staff can ensure consistency in how the various TMDLs are implemented by the MS4. In fact, this language is included in the working proposal for the MS4 permit released for public review on April 23, 2012.

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		In addition, individual or subgroups of MS4 dischargers can differentiate their discharges from other dischargers or upstream contributions by demonstrating one of the following conditions at outfalls to receiving waters or jurisdictional boundaries: 1. Zero discharge from individual or subgroup MS4 dischargers; 2. Flow-weighted concentration of *E. coli* in individual or subgroup MS4 discharges is less than or equal to 235 MPN/100mL, based on a weighted average using flow rates from all measured outfalls; or 3. Demonstration that the MS4 loading of *E. coli* to the receiving water is less than or equal to a calculated loading rate that would not cause or contribute to exceedances based on the loading capacity representative of conditions in the receiving water at the time of compliance. The City recommends that the WLAs section of the revised Bacteria TMDL be revised to allow for equivalent conditions when determining compliance. Additionally, the City would like to request consideration of an additional equivalency based on the lack of hydrologic connectivity between the City of Thousand Oaks and the downstream listed water bodies. Suggested language is as follows: 4. No flow or hydrologic conductivity to a listed reach.	

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3.6	City of Thousand	**The Regional Board Should Conduct Another Reopener to Reconsider Current and Future Issues Not Covered by This Reopener** The Regional Board was required to reconsider six items per Table 7-10.3 three years from the effective date (by January 24, 2009). For the revised Bacteria TMDL, the Regional Board reconsidered the majority of the required items except for a Natural Sources Exclusion Approach (NSEA) for Malibu Lagoon. In the 2004 Staff Report, Regional Board staff acknowledged that natural sources of bacteria in the lagoon (e.g., birds) may contribute to bacterial loading and that the contribution may be sufficient alone to cause an exceedance of water quality standards, yet Regional Board staff did not reconsider the NSEA. Regional Board staff, in the 2012 Staff Report, stated the reason they did not reconsider the NSEA, was that not all anthropogenic sources of bacteria have been controlled to date. However, the concept of only applying a NSEA after all anthropogenic sources of bacteria have been controlled is thought to be based on misinterpretation of language contained in the SMBBB Wet-Weather TMDL adopted by the Regional Board in December 2002. The basin plan amendment states: Under the natural sources exclusion implementation procedure, after all anthropogenic sources of bacteria have been controlled ***such that they do not cause or contribute to an exceedance of the single sample objectives*** and natural sources have been identified and quantified, a certain frequency of exceedance of the single sample objectives shall be permitted based on the residual exceedance frequency in the specific water body. The residual exceedance frequency shall define the background level of	Because many single sample exceedances were observed at MCW-2 located upstream of the Malibu Lagoon, in excess of the allowable exceedance frequency at the reference system, staff has determined that these exceedances are due to anthropogenic sources. Thus, not all anthropogenic sources of bacteria to the lagoon have yet been controlled such that they do not cause or contribute to an exceedance of the single sample objectives. Therefore, staff does not recommend the application of the natural source exclusion approach.

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		exceedance due to natural sources. The 'natural sources exclusion' approach may be used if an appropriate reference system cannot be identified due to unique characteristics of the target water body. These approaches are consistent with the State Antidegradation Policy (State Board Resolution No. 68-16) and with federal antidegradation requirements (40 CFR 131.12). The key statement often left out of consideration of the applicability of the NSEA is that anthropogenic sources of bacteria have to be controlled ***such that they do not cause or contribute to an exceedance of the single sample objectives***. When one considers the complete statement, including the cause or contribute language, the NSEA does not require that all anthropogenic sources of bacteria be controlled. This is important for instances where anthropogenic sources of bacteria are not significant when compared to natural sources. For example, in reaches of a watershed where natural sources are sufficient to cause exceedances and control of anthropogenic sources will not bring the reach into compliance, a NSEA may be appropriate. An issue not listed in Table 7-10.3 and not covered by this reopener, which should be reconsidered in a future reopener, is the suspension of REC-1 beneficial uses due to high flows. The Regional Board has developed an approach whereby REC-1 beneficial uses associated with the swimmable goal as expressed in the Federal Clean Water Act are suspended through the High Flow Suspension (HFS) Basin Plan amendment. For certain water bodies (all of which are concrete-lined channels), the HFS has been applied in the Los Angeles Region during days with greater than or equal to 0.5 inches of rain and the following 24 hours, but not for any water bodies in Ventura County. In the Los Angeles Region, the HFS is only applicable to channels that are	According to the Beneficial Uses in Chapter 2 of the Basin Plan, High Flow Suspension (HFS) does not apply to the Malibu Creek watershed. Given the nature of the Malibu Creek watershed (i.e., it is not an engineered channel), the approach for addressing HFS in the Malibu TMDL is not appropriate.

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		concrete lined. However, the Santa Ana Regional Water Quality Control Board is currently considering a broader application of the same concept to remove the rainfall amount requirement and to include channels that have been modified or engineered in some manner, but are not necessarily concrete lined. Additionally, the expansion of the HFS to cover Ventura County water bodies was included in the 2012 Triennial Review priorities. Inclusion of a HFS provision essentially provides an upper limit on the storm size that would be considered in the implementation planning process (e.g., BMP sizing would not have to incorporate considerations for storms that would result in unsafe conditions). This allows responsible jurisdictions and agencies to focus on storms that result in runoff volumes that may be manageable through reasonable BMP implementation. Incorporation of a HFS approach for Ventura County water bodies and natural channels into the Basin Plan could potentially affect targets, allocations, implementation approaches, as well as compliance determination. In addition, the Regional Board is currently engaged in a Recreational Use Re- Evaluation (RECUR) of the engineered channels in the Los Angeles River watershed to evaluate the level of recreational usage; part of which includes evaluation of recreational usage in low depth waters. The outcome of the RECUR process may lead to use changes and/or policies that will likely be applicable to the Malibu Creek watershed and Bacteria TMDL, and should be considered as part of a reopener. Finally, the Regional Board should reopen the Bacteria TMDL to reconsider any scientific advancement related to bacteria. As the	Staff acknowledges that other aspects of the TMDL may need to be reconsidered, especially as the science continues to develop. Staff will consider all new material and information brought to our attention at any time and bring the TMDL to the Board for re-consideration, if warranted. For this reconsideration currently before the Board, staff is not recommending that a mandatory re-

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		science related to bacteria continues to evolve and develop, it is important that regulations evolve as well. For example, bacteria detection methods are becoming more sophisticated and refined; source tracking methods are continuing to be more reliable; epidemiological studies are becoming more robust; and forecasting water quality problems and predictive modeling, such as Quantitative Microbial Risk Assessments (QMRAs), are emerging as informative ways to aid management decisions. The City recommends that the Regional Board conduct another reopener three years after the effective date of the current amendment to reconsider a NSEA for Malibu Lagoon, the inclusion of Ventura County water bodies and channels that have been modified or engineered in the HFS of the REC-1 beneficial use, use changes and/or policies resulting from the RECUR process, and any new scientific methods/ideas related to bacteria that may affect targets, allocations, implementation approaches, as well as compliance determination.	consideration of the TMDL be put in the implementation schedule.
3.7	City of Thousand	**The Compliance Timeline should be Extended due to the Delay in the Reopener Process** The Bacteria TMDL was supposed to be reconsidered by the Regional Board no later than January 24, 2009. However, since the Bacteria TMDL was not reconsidered until now, and as the results from the reconsideration process directly affect compliance, the compliance timeline should be extended to reflect the delay in the reconsideration of the Bacteria TMDL. An extension period of three years from the effective date of the current amendment for the dry weather and wet weather compliance goals would allow the responsible jurisdictions and agencies adequate time to comply with the updated compliance	In order to improve the water quality of Malibu Creek and Malibu Lagoon and protect public health, staff does not agree to extend the deadline (i.e., January 24, 2012) to achieve compliance with the allowable exceedance days for dry weather. The existing dry-weather compliance deadline was approved by the Regional

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		requirements of the revised Bacteria TMDL. The extension of the compliance milestones by three years would also be consistent with the timing of a second reconsideration of the Bacteria TMDL, which is important as the outcome of the second reconsideration is likely to affect how responsible jurisdictions and agencies comply with the Bacteria TMDL. As outlined above, the science and regulatory requirements surrounding bacteria TMDLs is continuing to evolve, and there are numerous activities that will be completed in the next few years that could have significant impacts on compliance requirements for the City and other municipal agencies. As a result, the Regional Board should take a truly phased approach to addressing this TMDL, and structure the TMDL to allow agencies to take reasonable steps to identify and control bacteria, but avoid significant expenditures of funds that may not be necessary depending on the uses and standards modifications that could be considered in the next few years.	Board after a lengthy public participation process, and considering all stakeholder input and the nature of the Malibu Creek watershed. As stated in the staff report, staff agrees to extend the wet-weather compliance date because responsible parties have pursued integrated approaches. However, an extension of the dry-weather compliance deadline is not supported. Furthermore, the changes proposed as part of this reconsideration should not affect the dry-weather implementation activities identified by responsible jurisdictions in their implementation plan.
4	Heal the Bay & Santa Monica BayKeeper, May 7, 2012		
4.1	Heal the Bay & Santa Monica BayKeeper	**The Regional Board should preserve a rolling 30-day geometric mean period** We urge the Regional Board to preserve **a rolling 30-day geometric mean period**, which is critical for tracking and identifying chronic water quality problems. This is extremely important for public health protection of beachgoers on a day to day basis. The Regional Board staff is proposing a longer six-week geometric mean period. A shorter geometric mean period is more technically sound because it allows for a more comprehensive analysis, which can better account for the beach water quality fluctuations that may be masked with a longer period. As demonstrated in the attached Table, using the six week geomean period	The shorter calculation period for the geometric mean is not more technically sound - the 6 week calculation period will ensure in almost all cases at least 6 samples in each geometric mean calculation – the 30 day will often have 5 and often have only 4 which can result in a much less accurate geometric mean.

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		results in lower protection. According to EPA's 1986 Recreational Beach Water Quality Criteria, the current water quality monitoring recommendation is no less than five samples equally spaced over a 30-day period. California's Ocean Plan is identical to USEPA's geometric mean water quality monitoring guidelines. Additionally, the California Department of Health Services' Draft Guidance for Salt and Freshwater Beaches recommends a "...a 30-day sampling period in order to provide the minimum protective bacteriological standards for waters adjacent to public beaches and public water-contact sports areas." There is no justification for the Regional Board to provide a different calculation in the Draft Amendments. While we support zero (0) exceedances of the geometric mean, we believe the proposed increase in the geometric mean period is unjustified as it will result in decrease in public health protections. Instead, the Regional Board should take the most protective approach and maintain the existing rolling 30-day geometric mean period, at the minimum.	The Regional Board recommended method provides a more accurate geometric mean every week instead of a less accurate geometric mean calculation. In addition to the sources Heal the Bay quotes, USEPA's recently-released draft Recreational Water Quality Criteria recommends a 30 to 90 day period for the calculation of geometric means. The day to day health protection of beachgoers is addressed also by the single sample maximum. The Regional Board uses a dual method: both single sample maximum limits and geometric mean limits ensure adequate protection of human health. No beach water quality fluctuation is ever masked.
4.2	Heal the Bay & Santa Monica BayKeeper	**The Regional Board should not use the 90th percentile storm year to determine exceedance rates** The proposed Draft Amendment uses the number of wet weather days during the 90^{th} percentile storm year to determine the number of days of allowable number of exceedances. Because the 90^{th} percentile rain event year is used to determine the number of allowable exceedances, during 90% of all years analyzed, the actual number of exceedances at the	The critical condition for bacteria exceedances is wet weather, and the 90th percentile year, in terms of the number of wet-weather days, has a return frequency consistent with that

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		reference location will be less than the allowable number of exceedances. Thus, in 90% of the years the TMDL does not truly account only for natural conditions. Heal the Bay has expressed its concern over this methodology in our comment letters regarding both the dry and wet bacteria TMDL's for Santa Monica Bay Beaches. Instead, we suggest that the Regional Board use the median or 50th percentile storm year.	used in other TMDLs. Establishing the WLA based on the historical exceedances of the reference watershed during a dry year would result in the reference watershed itself being in non-compliance. This would undermine the intent of the reference watershed approach, which is to make allowances for natural sources of bacteria and to avoid diverting natural creeks and drainages. In addition, the methods employed to meet the WLAs based on the critical wet-year will reduce exceedances during drier years as well. Use of the 90th percentile year assists implementing agencies in planning for a worst-case scenario and it is expected that in years with fewer wet days a decline in exceedance days will be observed.
4.3	Heal the Bay & Santa Monica BayKeeper	**Miscellaneous** • As you know, the TMDL allows for additional compliance time when an integrated approach to wet weather TMDLs is pursued. We supported this concept, as it is extremely important to look at water issues comprehensively. Most dischargers appear to be taking this added time as a "given." What evaluation has been	Staff disagrees. Based on the documents submitted to the Regional Board for consideration, responsible agencies have met the minimum requirement of the TMDLs to qualify as

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		done by the Regional Board to ensure that this extra time is truly merited and progress to this end is occurring? We have seen no confirmation to date. As part of this reopener process, we strongly urge the Regional Board to set strong criteria for being eligible for this extra time and to evaluate what has occurred to date. • The notice mentions an amendment to Chapter 3. What does this entail? We do not see any such proposed changes in the documents distributed. We are encouraged that the Regional Board decided not to use "ghost data"[5] when determining the geometric mean. These data may misrepresent actual water quality and fluctuations, thereby giving the public a false sense of security or misrepresentation of poor water quality conditions.	implementing an integrated approach. As such, the alternate implementation milestones in the TMDL are triggered and responsible agencies are to now meet the extended schedule as specified in the TMDL. The proposed Tentative Basin Plan Amendment amends the implementation provisions for Water Contact Recreation in Chapter 3 which is included in Attachment D to the Tentative Regional Board Resolution and can be found on the Regional Board website in the following link: http://www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/bpa_90_R12-XXX_td.shtml or provided upon request. Comment noted. The meaning of the term "ghost data" remains unclear to RB staff.
4.4	Heal the Bay	In summary, Heal the Bay and Baykeeper strongly urge the Regional Board to ensure that water quality standards are met and public health is not compromised for years to come. The Bacteria TMDLs reconsiderations should not be used to relax water quality protection at the expense of beachgoers and our vitally important tourist economy. To that end, the proposed Draft Amendments should be revised to preserve the	See response to comment 4.1. Changing from a 30-day to a six-week calculation period does not relax water quality protection. The targets and allocations are unchanged and the

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		rolling 30-day geometric mean to accurately account for water quality fluctuations and better protect the public from bacteria pollution. Furthermore the proposed static seasonal geometric mean should be removed from the Ballona TMDL. Finally, the Regional Board should not longer use Leo Carrillo Beach as the most appropriate reference beach for our Region but should instead rely on Nicholas Beach or another more appropriate location.	geometric mean calculation period is lengthened to ensure a reasonably accurate assessment of the central tendency of the beach data. The Ballona Creek TMDL Basin Plan Amendment has been revised to delete the reference to the discrete geometric mean calculation.
5.	Joan Almond	Being an over 50 year resident of Malibu Colony, I am naturally concerned about the TMDLs (Total Maximum Daily Load) of pollutants in our Malibu Lagoon and nearby ocean safely meeting water quality standards. Apparently the new science since the original reports were made regarding the restoration of Malibu Lagoon now take into consideration the many more phases of water quality including MERSA, and staph. There are reports now that prove that the pollution there is not from human fecal bacteria, but from bird droppings (it is a designated bird sanctuary, after all) and other unknown yet to be identified, according to the USGS last year. Could you please update your reports to current standards of the new science before you make any more decisions concerning any changes to our Lagoon.	Staff acknowledges that the science continues to develop. Staff will consider all new material and information brought to our attention at any time and bring the TMDL to the Board for re-consideration if warranted. As stated in the staff report : "This reconsideration is not a general reconsideration of all the elements of the Malibu Creek Bacteria TMDL, but a re-examination of certain technical issues which, as recognized at the time of TMDL adoption, might need revision upon further data collection and analysis, study or experience."
6.	Sharon Barovsky	The Regional Water Quality Control Board did not follow the terms in the Basin Plan Amendment to enforce actions on all responsible agencies. In the case of Malibu Lagoon and Surfrider Beach, the natural source exclusion process outlined was abandoned. For years, the	The estimation of bacteria loadings from birds in the lagoon has already been described in the 2004 staff report (page 22) and staff believes that an

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		municipalities in the Malibu Creek watershed jurisdiction begged Regional Board staff to enforce the conditions of the Basin Plan but were ignored. As a member of the public, I want assurances that this will not continue. Attachment A to Malibu Creek Bacteria TMDL Resolution NO. 2004-019R states, "The California Department of Parks and Recreation (State Parks), as the owner of the Malibu Lagoon and Malibu Creek State Park, is the responsible agency for these properties. However, since the reference watershed approach used in the developing this TMDL is intended to make allowances for natural sources, State Parks is only responsible for: conducting a study of bacteria loadings from birds in Malibu Lagoon, water quality monitoring, and compliance with load allocations applicable to anthropogenic sources on State Parks property (e. g. onsite wastewater treatment systems)." State Parks never attempted to do any of the required actions…. State Park has not conducted the study to determine bacteria loadings from birds, performed any water quality monitoring to rule out a potential failing OWTS at the Adamson House, impacts from portable potties at the Lagoon or impacts from illegal campers using natural vegetation as their toilet along the creek. The physical changes to the Malibu Lagoon created by State Parks in 1983 have resulted in impacts to water quality and aquatic life and probably elevated bacteria. State Parks is proposing to increase the size of Malibu Lagoon, alter the circulation patterns, tidal/lagoon interchange and increase areas of bird habitat. All of the proposed anthropogenic alterations will result in changes to the loading of regulated constituents in Malibu Lagoon and at Surfrider Beach. State Parks remains the responsible agency and so far, the RWQCB continues to look the other way.	additional bird study conducted by State Parks at this point would not improve upon the estimates in the 2004 staff report. A further bird study to quantify the bacteria loading from birds may be required at the Regional Board's discretion in the future. The physical changes to the Malibu Lagoon are beyond the scope of this particular reconsideration. State Parks is identified as a responsible party in the TMDL and is responsible for compliance with load allocations applicable to anthropogenic sources on State Park property (e.g., onsite wastewater treatment systems). By January 24, 2012, compliance with the allowable number of dry-weather exceedance days must be achieved. Staff will review the bacteria monitoring data submitted by responsible agencies to determine the compliance.

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		The bacteria regulations are not being met by municipalities, in part, because the regulations are selectively applied and all responsible agencies are not being included or held accountable to the Clean Water Act.	
7	Georgienne Bradley	The TMDLs for Malibu Lagoon need to be updated to conform to recent major scientific studies (a Total Maximum Daily Load, or TMDL, is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards). These studies confirm broad sources of natural and human pollution that were not considered previously, because, until now, there was no science to support these findings. In 2011 the USGS (United States Geological Survey) found that there was no fecal human bacteria in Malibu Lagoon. Instead there exists a very high bacterial load coming from bird droppings and other sources as yet to be clarified. NOAA (National Oceanic and Atmospheric Administration) recently established a high level of staph (*Staphylococcus aureus*) in the sand at surfrider beach coming from the skin of beachgoers. This includes very dangerous MRSA (anti-biotic resistant bacteria) and highlights another source of pollution. Science is continually bringing us new revelations and we must move with it. The current definition of natural and human pollution does not yet embrace new science and by keeping wording narrow, environmental groups have standing to sue small cash-strapped communities and are doing so. Please also consider having people making public comment at your hearings identify their group affiliations. At a recent hearing staff members of interested groups testified as concerned beachgoers, not revealing their professional interest in the outcome of the hearing.	Staff acknowledges that the science continues to develop. Staff will consider all new material and information brought to our attention at any time and bring the TMDL to the Board for re-consideration if warranted. Staff acknowledges that the US Geological Survey published a study titled "The Distribution of Fecal Indicator Bacteria along the Malibu, California, Coastline" (Izbicki, 2011). In the report, the author stated that "Direct discharge from Malibu Lagoon to the ocean during the April sample period was a source of FIB to the ocean, and movement of water from the lagoon through the berm separating the lagoon from the ocean was a source of FIB to the near-shore ocean during the July sample period at low tide. However, data collected as part of this study need further interpretation before final conclusions can be drawn. In particular, statistical analysis of genetic data (T-

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			RFLP, Phylochip), molecular data (PLFA), and chemical data needs to be completed to fully understand how these complex data sets relate to FIB occurrence and sources in this complex hydrologic setting." At the public hearing to consider this action, the Regional Board will allow people to make public comments at which point they will identify their group affiliations.
8	Joyce Dillard	We question that you have not indicated any performance measures of pipeline conditions including sewers, stormwater, gas, oil and other fluids. You have not asked if there are overweight trucks allowed on the streets in the WMA. You have not analyzed any "earthquake" potential whether it be from a fault or from other vibrations. Bacteria should be identified with some sense of the entire picture, not just a test tube. Underground storage tanks are being omitted as a source of contamination. Because of homelessness and other issues of vehicle living, is sewage being dumped without concern of the consequences.	Staff is unable to establish the relevance between the comment and the TMDL reconsideration. See response to comment #1.5.

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		This process needs to encompass a complete understanding of the issue, identification and allowances. Cost-Benefit Analysis should be part of the process and we see none. Public Health and Safety issues should be forefront including the disease potential of migrating birds and wildlife. Who measures and analyzes that aspect. We have seen approaches to TMDLs with no sense of source, cost or results. This should not be executed as folly, but addressed in a professional, encompassing approach to a realistic solution.	
9.	Carol Moss	The TMDLs for Malibu Lagoon need to be updated to conform to recent major scientific studies (a Total Maximum Daily Load, or TMDL, is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards). These studies confirm broad sources of natural and human pollution that were not considered previously, because, until now, there was no science to support these findings. In 2011 the USGS (United States Geological Survey) found that there was no fecal human bacteria in Malibu Lagoon. Instead there exists a very high bacterial load coming from bird droppings and other sources as yet to be clarified. NOAA (National Oceanic and Atmospheric Administration) recently established a high level of staph (*Staphylococcus aureus*) in the sand at surfrider beach coming from the skin of beachgoers. This includes very dangerous MRSA (anti-biotic resistant bacteria) and highlights another source of pollution. Science is continually bringing us new revelations and we	See response to comment #7

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		must move with it. The current definition of natural and human pollution does not yet embrace new science and by keeping wording narrow, environmental groups have standing to sue small cash-strapped communities and are doing so. Please also consider having people making public comment at your hearings identify their group affiliations. At a recent hearing staff members of interested groups testified as concerned beachgoers, not revealing their professional interest in the outcome of the hearing.	
10	Sean & Monique Kehoe	As citizens of Santa Monica & Malibu, we are highly concerned with the proposed plan to dewater and dredge the Malibu Lagoon at SURFRIDER beach. Due to this project we are very concerned with the high bacteria level that will be exposed and released into the pacific ocean. We are requesting that you put this project on hold and look at the new science to find other ways that are less destructive and Eco friendly to address this serious situation.	The dewatering and dredging projects discussed by the commenter are beyond the scope of this reconsideration. If the commenter is referring to the TMDL currently being developed by USEPA for Benthic Community Effects and Sedimentation in Malibu Lagoon, this TMDL is not part of the action before the Regional Board. The purpose of Malibu Creek and Santa Monica Bay Beaches Bacteria is to protect water quality and public health, and staff disagrees to put the proposed reconsideration of the bacteria TMDLs on hold.
11	Athen Shlien	As a surfer and citizen of Malibu I would like to express my concern for the possible harm that may result from the RWQCB's establishment of Total Maximum Daily Loads that would not allow for natural sources of bacteria in our watershed. This reactionary approach could actually cause more harm than good and would utilize valuable resources to	The TMDL recognizes that there are natural source of bacteria, which may cause or contribute to exceedances of the single sample objectives for bacteria indicator. It is not the intent of the

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		address issues that may never be in our control. It would serve the public best to focus on the known sources of pollution - man made sources such as pesticides, toxic chemicals and nutrient enriched waters from sewage treatment plants such as Tapia. Heal the Bay and other NGO's have long used water pollution as a platform for dredging projects. We now know that when toxic sediments are redistributed they can actually cause harm; releasing and stirring up chemicals that have the potential to negatively impact human health and our environment. Now they want to dredge and drain Malibu lagoon, even after the most recent study by the USGS says that the "F" grade in the lagoon is more often the result of a natural, healthy lagoon ecosystem. Why haven't these organizations acknowledged the most recent, cutting edge science? I urge the RWCQB to utilize the best available and most recent science to ensure an effective approach to watershed management.	Regional Board to require treatment or diversion of natural waterbodies. The dredging projects discussed by the commenter are beyond the scope of this reconsideration.
12	Wendi Werner	I recently spoke at the LAWRCB about the re-openers of the TMDL exceedances. I am a resident of Malibu and our City has made some great strides in cleaning up our water quality. I am concerned that the TMDL re-opener seems to not take into account the "natural bacteria" and I would like to see that addressed. Natural bacteria does have an impact on our environment, not always bad, however with it not being acknowledged we end up with projects like the dredging of the Malibu lagoon. Again, I would urge natural bacteria to be taken into consideration in the future agenda.	See response to comment #10.