

Response to Comments Matrix for the Los Angeles River Watershed Bacteria TMDL – Technical Report Section 6: Dry Weather TMDL and Wasteload Allocations (Section 6), dated October 2009

| Comment Number | Commenter | Section | Comment | Response to Comment |
|----------------|-----------|---------|--|---|
| 1 | HtB | 6 | <p>There is inconsistency between this section and the Numerical Targets section, which allows for exceedance days during dry and wet weather, versus the Wasteload Allocations section, which basically does not include exceedance days.</p> | <p>The Targets section presents the in-stream <i>E. coli</i> water quality targets/goals to protect the REC-1 beneficial use. There is a corresponding assimilative capacity called the “total maximum daily load” from point and non-point sources (with considerations for a margin of safety) that would result in meeting the Targets (and thereby protecting the REC-1 beneficial use). The TMDL is split into allocations for the various types of point source (MS4, industrial, etc.) and non-point source (natural sources) discharges in the Watershed.</p> <p>The approach to allocating the TMDL was to assign wasteload allocations (WLAs) for point sources that are load-based, expressed in MPN per day of <i>E. coli</i>. These WLAs were calculated based on the assimilative capacity (i.e., the TMDL) for the LA River waterbodies.</p> <p>The portion of the TMDL that corresponds to allowable Exceedance Days is allocated to the natural non-point sources of bacteria, which is the intent of the Basin Plan amendment that allows for an exceedance day approach. Additionally, the application of a load-based WLA provides very clear numeric goals that can be used as the basis of MS4 implementation strategies.</p> |
| 2 | HtB | 6 | <p>“Discharges from the headwaters and in-channel sources are accounted for with the Exceedance Day Approach.” – How is this implementable? Only LA and no WLAs are using Exceedance Day Approach?</p> | <p>Natural, non-point sources are assigned load allocations (LAs) that reflect the portion of the TMDL that corresponds to allowable Exceedance Days. The intent of the Basin Plan is to not require control and treatment of natural sources for bacteria. Thus is it not envisioned that implementation actions would be taken to control natural, non-point sources.</p> |

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| 3 | Heal the Bay | 6 | WLA's in units of billions of MPN/day are not implementable and make compliance determination nearly impossible. | <p>The WLA approach is implementable and is consistent with USEPA TMDL guidance, and TMDLs developed in California and throughout the nation. The Exceedance Day approach provides little or no guidance to NPDES Permittees on how or where to control discharges. Mass-based WLA's are implementable because they 1) focus MS4s implementation actions on reducing MS4 loadings below levels that could cause or contribute to an exceedance and 2) if the WLA's are attained then the only loading that could cause exceedances would be from non-point sources.</p> <p>Compliance determination is not impossible, as it was demonstrated through the CREST BSI Study that monitoring of <i>E. coli</i> loading from dry weather storm drain discharges is feasible, and monitoring of bacteria and flow rate can be conducted to evaluate the attainment of the WLA's.</p> |
| 4 | Heal the Bay | 6.3.2 | <p>“To be conservative for the calculation of non-WRP WLA's, the permit limits 2.2 MPN/100 mL total coliform were converted directly to <i>E. coli</i>. Measurements of <i>E. coli</i> are reported in whole numbers, and thus 2 MN/100 mL was used.” This ratio is completely inappropriate and unfounded.</p> | <p>By definition <i>E. coli</i> concentrations are less than total coliform, as <i>E. coli</i> are a subset of the total coliform. As such, the use of a 1:1 <i>E. coli</i>: total coliform ratio is highly conservative. This highly conservative ratio is appropriate, as it ensures that non-MS4s WLA's are not too large and thus is protective of water quality standards.</p> <p>A footnote was added to provide clarification.</p> |

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| 5 | Heal the Bay | 6.5 | When Bacteria TMDL targets are met at in-stream compliance points, low bacterial levels cannot be assumed for upstream tributaries. The second half of this paragraph should be removed. | The language has been re-worded. This statement is only applicable to the upstream portion of the segment or tributary being monitored (not tributaries to the segment being monitored). The point is that if TMDL targets are met within a segment, then it is no longer necessary to compare MS4 outfall loading to the WLAs, as the overall loading is known to be below the assimilative capacity of the waterbody (which represents a successful scenario for TMDL implementation). |
| 6 | Heal the Bay | 6.5 | This entire paragraph should be deleted. Compliance determination cannot be based on a model and implementation of “Load Reduction Strategies”. This can be part of the implementation plan but cannot be used in compliance determination. Compliance is attainment of water quality standards. | <p>The entire Technical Report has been edited to clarify the difference between “compliance” and attainment of water quality standards. Compliance is based on performing the requirements of NPDES permits, which will result in meeting the WLAs and attainment of the water quality standards.</p> <p>It is appropriate for NPDES compliance to be based on implementation of Load Reduction Strategies because they provide reasonable assurance of meeting WLAs, which in turn will result in water quality standards attainment. This approach of MS4 compliance being based on well-defined actions is consistent with recent MS4 permits adopted in southern California (e.g., Orange County).</p> |

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| 7 | Heal the Bay | 6.6 | Implicit MOS is not enough. Using “zero decay of storm drain loadings was included when determining the assimilative capacity of the LA River...” is not enough to ensure that the WLAs will get us to water quality standards attainment. | <p>It is the purpose of the Linkage Analysis to ensure that attainment of WLAs will result in attainment of water quality standards (see USEPA Protocol for Developing Pathogen TMDLs). The purpose of the MOS is to account for potential uncertainty in the analysis of pollutant loading and corresponding response of in-stream conditions. The MOS can be implicit, explicit, or both. An implicit MOS must be accompanied by a demonstration that conservative calculations have been used such that a significant portion of the assimilative capacity has been reserved for error and uncertainty.</p> <p>This TMDL utilizes an implicit MOS. The magnitude of the implicit assumptions are presented in the calculation of MOS percentages demonstrate that conservative calculations have been utilized. As such, inclusion of another explicit MOS is unnecessary.</p> <p>The MOS analysis has been slightly revised to further clarify the conservative nature of the assumptions utilized to develop the TMDL, and was moved to Section 5 (Linkage Analysis).</p> <p>Section 7 includes a detailed iterative process that refines the WLAs over the course of TMDL implementation. If the WLAs are found to be inappropriately large, they will be reduced during a TMDL re-opener.</p> |
| 8 | Heal the Bay | 6.7 | A discussion on Natural Source exclusion does not belong in the Wasteload Allocations section or the technical report. This entire section should be removed. | The Natural Sources Exclusion is an important consideration for all Bacteria TMDLs in the Los Angeles Region and is incorporated into previously adopted TMDLs in the Region. This section was not removed from the Technical Report. |

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| 9 | City of Downey | 6 | <p>The load duration curve method does not credit the LID and infiltration efforts of the permittees during wet and dry weather periods. In essence the flow curves should shift for runoff avoided. At first this value would be small, but it should increase over time with new and redevelopment projects.</p> <p>Alternatively it could be applied to those agencies that achieve the reduction.</p> | <p>The LDC approach is used to generate WLAs based on in-stream flow conditions. TMDL implementation is based on meeting those WLAs, and encourages the use of LID to meet WLA requirements. Thus, the TMDL “credits” any approach to implementation given that load reductions occur.</p> <p>However, if the flows in the LA River and tributaries significantly decrease based on flow reduction efforts (or other changes), then the WLAs for this TMDL may need to be revised during a TMDL re-opener.</p> |
| 10 | City of Downey | 6 | <p>How can the 70, 80 and 90th percentiles flows at Figueroa exceed the flows at Rosecrans and be comparable to the Wardlow flows?</p> | <p>Peak flow values at Figueroa Street appear to be higher than those at Rosecrans and Wardlow. Perhaps flows become “concentrated “at Figueroa Street, leading to elevated peak flows compared to downstream. The total volume discharged over a given storm, however, would be expected to be lower at Figueroa Street compared to downstream locations.</p> <p>This does not affect dry weather allocations, which are based on median flow rates.</p> |
| 11 | City of Downey | 6 | <p>Flows are Wardlow are less than at Rosecrans for low values.</p> | <p>At low flows, yes, the flow gages suggest this is the case.</p> <p>This does not affect dry weather allocations, which are based on median flow rates.</p> |
| 12 | City of Downey | 6 | <p>The latter two sites are downstream and should be accumulating flows, unless there are no, or at least negligible discharges below Figueroa.</p> | <p>Agreed, it would be expected that the dry weather flow rates at Wardlow would be higher than at Rosecrans.</p> |

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| 13 | City of Downey | 6 | Alternatively, it may be reasonable to characterize the “analytical” noise of flow measurement and its impact on the uncertainty of a violation. | <p>There is error and uncertainty associated with the LA River and tributary flow measurements.</p> <p>This uncertainty is addressed by the many conservative assumptions that contribute to the Linkage Analysis and implicit MOS, to ensure that meeting WLAs will result in attainment of TMDL targets.</p> |
| 14 | City of Downey | 6 | How do estimated travel times match with low flow channel velocities? | <p>The estimated travel times are based on graphical outputs from the dry weather model for the LA River Metals TMDL. The travel time is a function of those velocities and estimated waterbody length.</p> |
| 15 | City of Downey | 6 | What was the Rio Hondo flow rate in the metals TMDL? I remember 0.5 CFS (but not whether it was median or 90th). | <p>The critical flow condition for this TMDL is the same as the Metals TMDL, 50th percentile. The reported median flow in the Metals TMDL is 0.5 cfs. The median flow reported in this TMDL technical report is 0.25 cfs, based on LA County flow gage F45B. The reason for this difference is unclear.</p> |
| 16 | City of Downey | 6 | When do we get credit for our continued flow reduction efforts? | <p>Reduction in flows should reduce the <i>E. coli</i> loading from the MS4 to 303(d)-listed waterbodies, and assist with attainment of the WLAs. Attainment of WLAs is “credited” as success for MS4s.</p> |

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| 17 | Flow Sciences | Page 5 | Document states that “in-channel sources were not given a numeric LA..., but they have been properly accounted for during development of TMDLs and allocations.” This is done, presumably, through the “allowable exceedance frequency.” However, as discussed above, it appears that this exceedance frequency likely underestimates the role of natural background sources, at least in some reaches of the river and in some watersheds. | <p>The allowable exceedance frequency (number of Exceedance Days) is based on a large-scale study performed by SCCWRP over two years in reference watersheds across southern California (over 400 samples). At this time, this is the most reliable dataset for determination of naturally-occurring <i>E. coli</i> WQO exceedance rates.</p> <p>Special studies are encouraged during TMDL implementation to evaluate and refine the frequency of natural exceedances.</p> |
| 18 | Flow Sciences | Page 13 | While it may be possible for dischargers to meet individual WLAs at individual storm drains (e.g., by diverting or disinfecting flows), it should be understood that <i>it is highly unlikely that meeting individual WLAs will result in in-stream compliance with WQO</i> . Thus, it is unlikely that TMDL targets will be met in-stream, at least in certain reaches (e.g., at Slauson in Reach 2). | <p>WLAs were calculated based on the assimilative capacity of the LA River, and thus attainment of the WLAs should result in attainment of TMDL Targets.</p> <p>Section 7 includes a detailed iterative process that allows for refinement of WLAs over the course of TMDL implementation. If attainment of WLAs does not result in attainment of Targets/WQOs, then they will be reduced during a TMDL re-opener. However, if TMDL Targets are not attained due to natural sources, then Natural Sources Exclusion studies could evaluate the attainable water quality condition given those sources. It should be noted that the Natural Sources Exclusion is only applicable when anthropogenic sources do not cause or contribute to WQO exceedances.</p> |

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| 19 | Flow Sciences | Page 13 | It appears, based on the evaluation of TMDL targets at in-stream compliance points, that compliance in some locations may never be achieved (short of eliminating inflows). | See response to Comment 18. Also, the BSI Study measured many outfalls that exhibited very low <i>E. coli</i> loading rates, much lower than the WLAs. Thus it is not expected that all inflows will need to be eliminated. |
| 20 | Flow Sciences | Page 19 | Under the Natural Sources Exclusion, it is not clear how it will be determined that “all anthropogenic sources of bacteria have been controlled...” It seems that this will be a very difficult demonstration to make. Additional detail is requested. | The components and expected outcomes of a Natural Source Exclusion study would likely be detailed in a Work Plan created in coordination with experts, regulatory agencies, and other interested stakeholders. Such a study could be completed during implementation of the TMDL. |
| 21 | Flow Sciences | 6 | As in the past, we would recommend that implementation proceed toward eliminating human sources of indicator bacteria (and pathogens), and that compliance with the TMDL be judged by those efforts. It seems that this could likely fall under the umbrella of a natural source exclusion, and many of the same implementation measures (e.g., diversion of some flows) might still apply. However, it would eliminate the never-ending do-loop of trying to attain compliance with WQO in the receiving water, which, at least in some locations, is likely unattainable. | The REC-1 beneficial uses for the LA River and its tributaries are protected with WQOs for <i>E. coli</i> . As such, WLAs and implementation of this TMDL are based on <i>E. coli</i> . However, as described in Section 7, stakeholders are encouraged to use human-specific microbial measurements to assist with implementation planning. Further, implementation actions are encouraged to emphasize abatement of human fecal sources that might pose elevated risks. Further study would be needed to determine whether a Natural Sources Exclusion is appropriate for portions of the Watershed. |