

# NEWHALL LAND

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June 7, 2010

California Regional Water Quality Control Board  
Los Angeles Region  
320 West Fourth Street, Suite 200  
Los Angeles, California 90013

Attention: Mr. Yanjie Chu, Environmental Scientist TMDL Unit

Re: Comments on the RWRCB's Draft Bacteria TMDL for Santa Clara River Reaches 3, 5, 6, and 7 and the SCR Estuary

Dear Mr. Chu:

We appreciate the opportunity to comment on the Draft Amendment to the *Water Quality Control Plan for the Los Angeles Region* (Basin Plan) to incorporate a Total Maximum Daily Load (TMDL) for Indicator Bacteria in Santa Clara River (SCR) Estuary and Reaches 3, 5, 6, and 7. The Newhall Land and Farming Company (Newhall) takes its responsibility to maintain and protect water quality very seriously, and works hard to meet its obligations. We understand that the goal of the TMDL is to improve water quality to meet the REC-1 beneficial use by eliminating adverse human health effects through the reduction of bacteria indicator densities.

In general, we believe that several modifications should be made to the TMDL prior to approval for the following reasons:

Feasibility of Meeting Reference System-based WLAs is Unknown, Alternative Natural Source Exclusion Approach Should be Used

Fundamentally, there is significant uncertainty regarding the feasibility of bringing dry and wet weather urban runoff, *regardless of mitigation funds expended*, into consistent compliance with reference watershed-based bacteria exceedance rates at a subwatershed or city-wide scale<sup>1</sup>. Without information to support their attainability, the natural reference watershed-based Waste Load Allocations (WLAs) – which then will be applied in the Municipal Separate Storm Sewer System (MS4) National Pollutant

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<sup>1</sup> In fact, experience from several urban runoff treatment project examples suggests instream compliance with recreational water quality objectives, even if some reference-based exceedance days are allowed, may be altogether unattainable due to persistent downstream regrowth. This was observed downstream of the Moonlight Beach urban runoff ultraviolet (UV) disinfection facility in Encinitas, CA where treated bacteria levels were low or below detection, but regeneration of fecal coliform was measured downstream within the discharge pipes (Weldon et al 2006). Similarly, a UV disinfection facility treating urban runoff prior to discharging to Aliso Creek in Orange County observed bacterial regrowth to nearly untreated levels shortly downstream of the confluence point prior to any additional stormdrain inputs (Anderson et al 2005). Page 42 of the Draft SCR Bacteria TMDL Staff Report also acknowledges the potential for “regrowth and/or suspension of sediment-associated bacteria, regrowth of bacteria in the water column, and resuscitation of injured bacteria discharged with wastewater effluent.” This is also consistent with findings in the Tecolote Creek stormdrain system in San Diego County where stormdrain biofilms were shown to shed *Enterococcus* and thus contribute to persistent dry and wet weather bacteria levels in MS4 discharges (Roberts and Kolb 2009). Therefore it is possible that even with structural and source control BMPs implemented to the maximum extent practicable, bacteria exceedance rates in MS4 discharges or downstream in the SCR may not ever meet those of the reference systems.

Discharge Elimination System (NPDES) permits as enforceable numeric effluent limits – are unproven (from an implementation standpoint) and may exceed the Clean Water Act requirement of “maximum extent practicable.” However, the Natural Source Exclusion (NSE) approach, which sets the allowable exceedance rate at the observed receiving water condition after all anthropogenic sources of bacteria (which are more closely linked to adverse human health effects) have been controlled, is a more feasible alternative that should be used for this TMDL since it sets the implementation requirements at a mitigated urbanized condition (as opposed to a pristine undeveloped/unimpacted condition), and it is still protective of human health and the recreational beneficial uses. This is particularly true given the difficulty of finding appropriate or comparable reference stream and beach sites; page 21 of the Draft TMDL Staff Report even acknowledges this fact by stating, “Regional Board staff recognizes the most appropriate reference systems may not be identified.”

Unless this change to a NSE approach is made, significant additional/unnecessary MS4 implementation costs (approximately \$300 million capital cost estimated in the Staff Report, not including non-structural best management practices [BMPs] or operations and maintenance) – and associated environmental impacts due to the proposed implementation measures – may be expended to comply with the reference system-based WLAs despite having an acceptable alternative NSE approach available. Therefore Newhall recommends that the NSE approach be used in place of the reference system approach. If this change is not made, additional documentation should be provided to explain Board staff’s rationale (as currently written, section 2.1.3 of the Draft TMDL Staff Report doesn’t provide sufficient analysis of the NSE alternative).

Wet Weather Source Assessment is Unsupported and Requires Revision

Page 47 of the Staff Report states, in summary, that “MS4s appear most likely to be the largest source of bacteria to the SCR,” however *no E. coli* (which is the only indicator used for setting the TMDL WLAs and will be the only remaining freshwater recreational criterion once fecal coliform is removed per the current draft Basin Plan Amendment [tentatively dated July 8, 2010]) *data are provided to support this statement for wet weather conditions*<sup>2</sup>. In fact, a land use-based load analysis (Attachment A) using Southern California Coastal Water Research Project (SCCWRP) data indicates that the open space land use category likely contributes the greatest wet weather bacteria loads in the SCR watershed. A similar analysis needs to be provided by the Regional Board to support this and other TMDL source assessment conclusions. Or, alternatively, DNA-based source characterization studies, such as those conducted in other watersheds (e.g., Morro Bay), should be conducted during TMDL development so that a more informed source assessment section can be provided and a phased implementation schedule (by prioritized reach) proposed within the Basin Plan Amendment. Unless such quantitative source assessment analysis is provided, the proposed numeric exceedance day WLAs are unsupported and should be removed or changed to BMP-based requirements.

Wet Weather WLAs for Reaches 5, 6, and 7 are Unsupported and Should be Removed

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<sup>2</sup> A basis for this statement may be Table 4-12 on page 46 which summarizes annual fecal coliform (no *E. coli* data provided) storm loadings at LA County mass emission site S29, however these data are representative of wet weather loads from the entire subwatershed area which includes significant open space, agricultural, MS4, construction, industrial, school district, and other regulated discharger categories. No conclusion can be made about relative MS4 loadings based on these measured fecal coliform mass emissions. Table 4-3 on page 38 also summarizes LA County mass emission bacteria monitoring data, however again no *E. coli* data are provided for Reaches 5, 6, or 7. This table also summarizes total coliform exceedance rates however these are misleading/confusing and should be removed since no freshwater total coliform objective exists.

No *E. coli* data are provided to demonstrate that wet weather exceedance rates in Reaches 5, 6, and 7 are above the reference watershed-based allowable exceedance rates (in other words, it is unknown whether these reaches are out of compliance with their *E. coli* WLAs), therefore *there is no basis for setting wet weather WLAs for these reaches and it is not clear whether they are necessary or if implementation efforts are required*. Regarding the data that are summarized for these reaches, the Newhall Ranch Water Reclamation Plant (WRP) and Los Angeles County Sanitation District (LACSD) monitoring data were collected during dry weather only, consistent with their NPDES permit monitoring and reporting requirements, and the LADPW mass emission data for site S29 (reach 6) includes only fecal coliform, which is not used for setting the TMDL WLAs and is proposed to be removed from the LA Basin Plan's freshwater recreational use objectives. Therefore the wet weather WLAs for these reaches should be eliminated until such data is provided to demonstrate a history of wet weather exceedance rates that are above those that are allowed.

#### Reference System-based WLAs are Inappropriately Derived and Should be Recomputed

Both the dry and wet weather WLAs should be based on 90<sup>th</sup> percentile reference site exceedance rates, consistent with the wet weather day adjustment (described on page 49 of the Draft TMDL Staff Report) which uses the 90<sup>th</sup> percentile number of wet weather days to avoid "an untenable situation where the reference system is frequently out of compliance". In other words, the reference stream and beach sites should be ranked by exceedance rates, and the 90<sup>th</sup> percentile dry and wet weather exceedance rates should be selected as the basis for TMDL WLAs, otherwise the situation will unavoidably soon exist where *numerous reference sites will have greater reported exceedance rates than the TMDL WLAs that are required for MS4 dischargers*. Stated yet another way, the proposed TMDL WLAs (which, it is assumed, are average exceedance rates based on a compilation of data from multiple reference sites<sup>3</sup>) are more stringent than rates that have been observed at several individual reference watersheds. This allowable exceedance rate change is expected to increase both the dry and wet weather WLAs considerably, and result in more reasonable, but still protective, implementation.

#### Wet Weather WLAs are Inconsistent with SCCWRP Data and Should be Recomputed

The allowable wet weather exceedance rate shown in Table 6-1 on page 52 of the Draft TMDL Staff Report for Reaches 3, 5, 6, and 7 is 19%, however this rate is significantly below the *E. coli* freshwater single sample reference stream exceedance rate reported in SCCWRP Technical Report 500 which reports a 50% wet weather exceedance rates (figure provided below for reference) based on wet weather monitoring data for 22 natural reference streams. Therefore the wet weather WLAs should be recomputed based on a correct allowable exceedance rate. Furthermore, consistent with the comment immediately above, the 90<sup>th</sup> percentile exceedance rate reference sites should be used to set the allowable exceedance rates for the WLAs to avoid "an untenable situation where the reference system is frequently out of compliance" (from page 49 of the Draft TMDL Staff Report). This situation will undoubtedly exist if an average exceedance rate of multiple reference sites is used, as is currently proposed.

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<sup>3</sup> Furthermore, there is a lack of transparency in the Draft TMDL, as the raw reference site monitoring data should be provided in a technical appendix along with Regional Board staff's analysis demonstrating the basis for the allowable exceedance rates reported in Table 6-1 of the Draft Staff Report.

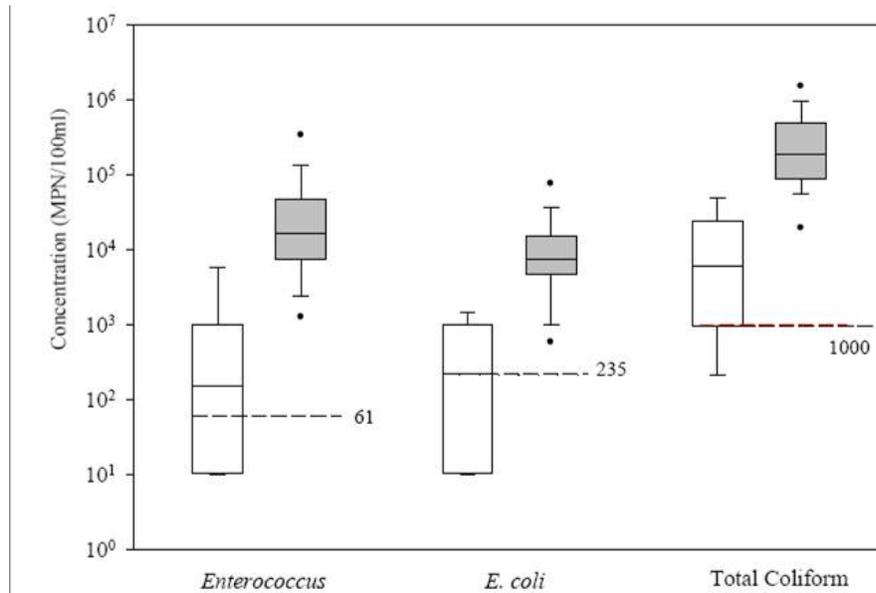


Figure 18. Comparison of wet weather flow-weighted concentrations of bacteria between natural and developed catchments. White boxes represent natural catchments, and gray boxes represent developed catchments. Y axis is in log scale. Dotted lines represent Department of Health and Safety draft guideline for freshwater recreation.

Reference: Page 69 of SCCWRP Technical Report No. 500, 2007. Boxes represent 25<sup>th</sup> (bottom), 50<sup>th</sup> (midline), and 75<sup>th</sup> (top) percentile statistics.

Allowable Exceedance Rates for Geometric Mean Objectives Need to be Added

It is inconsistent to allow reference watershed exceedances for single sample limits but not for geometric mean limits. The result of this will be to cause “an untenable situation where the reference system is frequently out of compliance” (from page 49 of the Draft TMDL Staff Report), as is the case currently at the reference beach (Leo Carrillo/Arroyo Sequit) for the Santa Monica Bay beaches bacteria TMDL where a recent Jurisdictional Group 1/4 TMDL implementation study (Geosyntec 2009) demonstrated consistent exceedance of the geometric mean limits at the reference beach site. Therefore the geometric mean-based WLAs (zero allowable days) are overly restrictive and may trigger MS4 implementation costs beyond what is required by the Clean Water Act, in addition to environmental impacts associated with those implementation measures.

We also raise a related and practical geometric mean compliance determination issue regarding dealing with non-detect monitoring results. At other bacteria TMDL beaches, non-compliance is occasionally unfairly assessed due to the influence of non-detect assumptions in the rolling geometric mean calculations, such as when they assume a detection limit value (often 10 MPN/100ml but sometimes greater) in place of the non-detect results. Therefore, to avoid this mathematical issue, the TMDL should clarify that geometric mean compliance determination calculations shall assume a value of zero for all non-detect monitoring results.

Significant Newhall Ranch WRP Monitoring Data are Missing from Data Review Section

On pages 27-28 of the Draft TMDL Staff Report, significant pre-startup (monthly) and NPDES (quarterly or semiannual) monitoring data are not shown for the Newhall Ranch WRP, despite Newhall’s reporting these results to the LARWQCB since 2004. In fact, only roughly 6% of the reported data are summarized

in this section. The additional data need to be included to allow for a comprehensive and longer term evaluation of conditions in this reach.

#### Reference Beach Dataset is not Appropriate for SCR Estuary thus WLAs Need to be Revised

The San Onofre and San Mateo beaches are cited as the TMDL reference sites that serve as the basis for the allowable single sample exceedance rates for the SCR Estuary, however, page 21 of the Regional Board Staff Report acknowledges that the most appropriate reference system may not be identified. Although both reference beach sites are lagoonal systems, the FIB data used as the basis for exceedance days was collected from the wave wash, not the lagoon. Microbiological conditions in an enclosed estuary (or lagoon) are drastically different than conditions in the open wave wash. Several studies have noted that in-situ bacterial growth within a closed estuary is impacted by stagnant water (i.e., lack of recirculation and flushing) (Gruber 2005), growth within accumulated sediments (Anderson 2005), and natural sources inhabiting the surrounding biologically diverse ecosystem. These conditions are not present in the open wave wash, nor do estuaries/lagoons provide the same wave-induced mixing/dilution that is seen in the open wave wash; therefore, *water quality samples collected from the open wave wash are not representative of estuarine FIB concentrations and cannot be compared with historic monitoring data from within an enclosed estuary.* The SCR Estuary allowable exceedance rates need to be revised to reflect reference sites with sample locations that are more representative of estuarine or lagoon enclosed beach conditions.

#### Implementation Plan Schedule Needs to Include a TMDL Reopener Milestone

Significant ongoing fecal indicator bacteria research and regulatory changes are occurring. For instance, epidemiological studies (e.g., by SCCWRP and others), microbial risk assessments, testing of new rapid measurement methods, new reference site monitoring studies, and microbial source tracking investigations are being conducted and these results will better inform our understanding of actual recreational illness risks and how to better implement recreational water quality criteria through TMDLs and other regulatory programs. Furthermore, in acknowledgement of known weaknesses of the existing recreational water quality criteria (which serve as the basis for bacteria 303(d) listings and TMDLs in the Los Angeles Region), the US EPA is undergoing a criteria revision, to be completed in December 2012. And finally, experiences from multiple regional boards with the reference system and NSE bacteria TMDL approaches will have accumulated thereby allowing for more informed bacteria regulation in the near future. Therefore, to allow for consideration of this highly relevant information, *it is critical that the TMDL Implementation Schedule contained in the Basin Plan Amendment include a TMDL Reopener milestone within 3 to 4 years after the TMDL effective date.* It is our understanding that, to date, all Los Angeles region bacteria TMDLs (e.g., Santa Monica Bay, Malibu Creek, Marina del Rey Harbor Mothers' Beach and Back Basins, Ballona Creek, and the Harbor Beaches of Ventura County) have included this important milestone. Reconsideration of this TMDL is necessary to allow time for the other, preceding bacteria TMDLs to mature and have their progress tracked. A reopener would also allow for the reconsideration of reference-based exceedance day targets (based on new reference studies), indicators or methods (based on new method development studies), replacement of the reference watershed approach with the NSE approach (based on experience from the San Diego Region and elsewhere), revision to the WLAs in response to a Basin Plan amendment that incorporates new EPA recreational water quality criteria, revision of the WLAs based on site-specific monitoring data or bacteria source tracking studies, or other possible changes based on new information.

#### Multiple Rain Gages should be used to Calculate the 90<sup>th</sup> Percentile Year for the SCR Watershed

The Staff Report evaluates the number of wet weather days associated with the 90<sup>th</sup> percentile year at three specific precipitation gages with acceptable quality of data and periods of record. The precipitation

record at the Piru-Newhall Ranch gaging station, located in Reach 5, was selected to represent the number of allowable exceedance days for all SCR Reaches and the Estuary, despite it measuring the fewest number as compared to the other gages. The blanket application of wet days at a single station to all reaches addressed in the SCR TMDL is not appropriate given the extent of the SCR watershed – e.g., it may rain in an upper reach or tributary headwater, thus resulting in wet weather hydrologic [and associated bacteriologic] conditions in the mainstem of the SCR, meanwhile the Piru-Newhall gage reports no rainfall.

Therefore we recommend that Board staff blend precipitation records from several representative gages to determine a more appropriate 90<sup>th</sup> percentile number of wet days, and approach that is more robust than using a single gage to represent the entire geographically-diverse SCR watershed. Blending gage data would involve combining multiple rainfall records into a single, more representative record by substituting zero precipitation measurements at one gage with non-zero measurements from another gage, and visa versa. At a minimum, if this more robust approach is not selected, it is recommended that the number of allowable wet days be based on the highest number of measured wet days (therefore a higher elevation gage may be more appropriate) which could affect downstream hydrologic conditions.

Scientific Portions of the Draft TMDL Must Undergo External Scientific Peer Review

Page 7 of the Draft BPA states, “scientific portions of this TMDL are drawn from the previously adopted bacteria TMDLs in the region, including the Santa Monica Bay Beaches Bacteria TMDL. As a result, the scientific portions of this TMDL have already undergone external, scientific peer review.” Health and Safety Code section 57004 requires external scientific peer review. The Santa Clara River and Estuary are different in many respects (i.e., biologically, geographically, geomorphically, hydrologically, etc.) from the Santa Monica Bay Beaches and the same scientific analysis cannot necessarily be assumed appropriate for this waterbody without external review and confirmation. Therefore this very important peer review process should not be circumvented before establishing long-term, firm water quality objectives.

Dry and Wet Weather Implementation Plan Schedule is Not Realistic and Should be Revised

The Draft Basin Plan Amendment Implementation Schedule (Table 7-36.3) specifies that compliance with the Load Allocations (LAs) and Municipal Separate Storm Sewer System (MS4) Waste Load Allocations (WLAs) must be achieved 8 and 14 years after the effective date of the TMDL for dry and wet weather, respectively. This equates to 4.5 and 11.5 years after final submittal and approval of the Implementation Plan for dry weather and wet weather, respectively. This time frame does not allow adequate time for studies (e.g., sampling and analysis to identify highest priority subcatchments), planning (i.e., siting, selecting, and initial concept development for structural BMPs), securing funding (i.e., bonds, general funds, etc.), jurisdictional coordination, design, permitting (including CEQA analysis/review which will be required for large projects), and construction of BMPs, as well as the completion of pilot testing of demonstration projects, if necessary. Furthermore, a phased funding approach is often employed in the design and construction of large-scale projects as it may be infeasible for municipalities to secure funding for all BMPs necessary to meet 100% of the TMDL WLAs all at one time, therefore funding timelines may be even longer. By comparison, both the Marina del Rey Harbor and Back Beaches and Santa Monica Bay Beaches Wet Weather Bacteria TMDLs specify 18 years after the TMDL effective date for full compliance with an integrated water resources implementation approach, and a shorter time schedule (10 years) without one. The implementation schedule specified in these past TMDLs is more reflective of the amount of time actually required for implementation. To allow proper time for all necessary implementation steps to proceed, TMDL compliance schedules of 10 and 18 years are recommended for dry and wet weather conditions, respectively.

## Cost Analysis does not Reflect Actual Implementation Costs and Should be Revised

The cost analysis contained in the Staff Report uses costs presented in the Ballona Creek TMDL and scales them based on watershed size. This is a very inexact method and does not take into account features specific to the SCR watershed. Additionally, details on the proposed structural BMPs (i.e., locations, number, sizes, etc.) are not provided. The use of cost estimates contained in discharger-developed TMDL implementation plans (e.g., the City of Los Angeles Implementation Plan for the Ballona Creek and Estuary Bacteria TMDL) would provide a more accurate estimate as these costs are developed based on analysis of current conditions versus required WLAs, BMP siting opportunities and constraints, up-to-date BMP construction cost data, and quantitative assessment analysis. Lastly, it is recommended that the cost of land acquisition costs be included; where public land is not available for BMP placement, the purchase of private land would be required. Therefore the TMDL cost estimates should be revised based on cost estimates that have been made available to Regional Board staff through numerous other bacteria TMDL implementation plans. In doing so, watershed-specific cost adjustments should be made to consider features specific to the SCR drainage network such as miles of storm drain, number of outlets, availability of public land for BMP siting, impervious area and/or other features is necessary for BMP siting, sizing, and costing.

Thank you for the opportunity to comment on the Draft TMDL for SCR Reaches 3, 5, 7, and 8 and the SCR Estuary. We would be glad to discuss our comments in a follow-up meeting with SWQCB staff. Please contact me at 661-255-4259 to discuss our comments or address any questions you may have.

Sincerely,  
The Newhall Land & Farming Company



Matt Carpenter  
Director, Environmental Resources

cc: R. Purdy, Section Chief, Regional Program  
M. Subbotin

### References Cited

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- Weldon, K. and P. Hartman 2006. Presentation: *Moonlight Beach Urban Runoff Ultraviolet Treatment Facility Effectiveness Assessment*. City of Encinitas. Stormwater Co-Permittee Meeting, November 16.

**Attachment A. SCR Watershed *E. coli* Loads by Land Use**

Land Use	Runoff Coeff.	Avg Rainfall, in/yr	Watershed Area, ac	Percent of Area	Mean EMC, MPN/100ml	Avg Annual Load, MPN/yr	Percent of Total Load
Open	0.06	18.4	1,024,000	90.5%	5,400	5.6E+15	36%
Agricultural	0.10	18.4	1,024,000	3.2%	41,000	2.5E+15	16%
HD residential	0.39	18.4	1,024,000	1.5%	8,200	9.2E+14	6%
LD residential	0.39	18.4	1,024,000	1.2%	30,000	2.7E+15	17%
Commercial	0.61	18.4	1,024,000	0.2%	11,000	2.7E+14	2%
Industrial	0.64	18.4	1,024,000	0.7%	3,800	3.4E+14	2%
Public Facilities	0.39	18.4	1,024,000	1.1%	8,200	6.7E+14	4%
Mixed Urban	0.64	18.4	1,024,000	0.2%	8,200	1.8E+14	1%
Educational	0.61	18.4	1,024,000	0.1%	8,200	1.1E+14	1%
Transportation	0.64	18.4	1,024,000	0.3%	1,500	5.0E+13	0%
Recreation	0.06	18.4	1,024,000	0.4%	530,000	2.1E+15	14%
Sum	-	-	-	99.4%	-	1.6E+16	100%

**References:**

Runoff coefficients: [www.labmpmethod.org](http://www.labmpmethod.org) (residential value used for HD/LD res. and public facilities, open value used for recreation)

Average annual rainfall: 18.4 inches (NCDC Newhall Gage 046162 adjusted with NCDC San Fernando Gage 047762)

Watershed area: Page 10 of Draft SCR Bacteria TMDL Staff Report

Area percents: Draft SCR Bacteria TMDL Staff Report (water land use [0.57%] excluded)

Mean land use EMCs: SCCWRP Technical Report 510, Appendix B-14 (HD res. value used for public fac., mixed urban, and educ.)

= MS4 Landuses

