Las Virgenes – Triunfo Joint Powers Authority
4232 Las Virgenes Road, Calabasas, CA 91302
818.251.2100

February 25, 2015

Mr. Samuel Unger, Executive Officer
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

[Submitted via email to losangeles@waterboards.ca.gov and
Celine Gallon, Celine.Gallon@waterboards.ca.gov]

Subject: **Triennial Review of Water Quality Standards**

Dear Mr. Unger:

We are pleased to comment on the Los Angeles Regional Water Quality Control Board (LARWQCB) Triennial Review of water quality standards required under §303(c) of the federal Clean Water Act on behalf of the Las Virgenes – Triunfo Joint Powers Authority (JPA). The JPA partners, consisting of Las Virgenes Municipal Water District and Triunfo Sanitation District, provide sanitation and recycled water services within their respective jurisdictions in Western Los Angeles and Eastern Ventura Counties, largely within the Malibu Creek Watershed.

As we communicated to you in our Triennial Review comment letter of October 13, 2011 (attached), JPA staff identified a number of naturally elevated water quality constituents while compiling and analyzing data from approximately 40 years of data collected within the Malibu Creek watershed, as directed by the LARWQCB at our 2010 NPDES permit hearing**.** When this analysis was completed, we found that Malibu Creek and all of the watershed's northern tributary streams exceeded one or more Basin Plan standards for surface or groundwater quality, even in remote areas located within undeveloped open space and on National Park Service lands.

As detailed in our report[1], the source of these exceedances was traced to the presence in the upper watershed of deposits of a marine Miocene petroleum shale known as the Monterey Formation. Site-specific information submitted with our report shows that multiple water quality standards in the Basin Plan are currently set at more-stringent levels than those that occur naturally due to the presence of this source in the Malibu Creek watershed, and possibly other watersheds where the Monterey Formation is found. Revised, drainage-specific water quality objectives (SSOs) are needed to address this condition which was previously unacknowledged.

1. LVMWD Report No. 2475.00. Water Quality in the Malibu Creek Watershed, 1971-2010. Existing conditions, historical trends and data interrelationships. Submitted to the LARWQCB Executive Officer 3/31/11 by the JPA in compliance with LWRWQCB Order No. R4-2010-0165. 98 pp.

While the JPA has not produced additional information other than the Monitoring and Reporting Program (MRP) data reported under various operating permits, we believe it is important to restate the continued relevance of the impacts rising from this natural formation. We hope they will assist you and your staff in determining the Regional Board's priorities for this important effort. Please feel free to contact either myself or Carlos G. Reyes, Director of Resource Conservation and Public Outreach at (818) 251-2130 if we can be of further assistance.

Sincerely,

David W. Pedersen, P.E.
Administering Agent/General Manager

Attachment

Las Virgenes - Triunfo Joint Powers Authority
4232 Las Virgenes Raod, Calabasas, CA 91302
818.251.2100

October 13, 2011

Mr. Samuel Unger, Executive Officer
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: **Triennial Review of Water Quality Standards**

Dear Mr. Unger:

On behalf of Las Virgenes Municipal Water District and our Joint Powers Authority (JPA) partner Triunfo Sanitation District, we appreciate the opportunity to comment on the Los Angeles Regional Water Quality Control Board (LARWQCB) Triennial Review of water quality standards required under §303(c) of the federal Clean Water Act. JPA staff also attended and commented on the LARWQCB staff report at the public hearing on the Triennial Review held on September 14, 2011, in Los Angeles.

General Comments

We support the priority given in the staff report to update some of the water quality standards contained in the current Water Quality Control Plan (Basin Plan). Several projects in the report are explicitly intended to revise various standards in the Basin Plan on the basis of new information. Several other projects, while not explicitly stating this goal, could reasonably be expected to lead to revised standards given their scope of work as outlined in the staff report. Our specific comments (below) primarily seek to affirm this expectation, particularly for several problematic water quality objectives long overdue for review within the JPA service area.

This particular Triennial Review is very timely in this regard. At the JPA's permit hearing last fall the LARWQCB directed JPA staff to gather and analyze all available water quality monitoring data collected over the past 40 years within the Malibu Creek watershed, the largest watershed in northern Santa Monica Bay[1]. This was the first time that water quality data from multiple agencies in this watershed had been compiled into a single database and viewed in their entirety. When this analysis was completed, we found that Malibu Creek and all of the watershed's northern tributary streams exceeded one or more Basin Plan standards for surface or groundwater quality, even in remote areas located completely within undeveloped open space and National Park Service lands.

1. September 3, 2010, Public Hearing on JPA NPDES Permit No. CA0056014, CI No. 4760

As detailed in our report[2], the source of these exceedances was traced to the presence in the upper watershed of substantial deposits of a marine Miocene shale known as the Monterey Formation. This natural geologic formation is one of the state's most important petroleum source rocks, *with significant deposits located in many Los Angeles and Ventura County inland and coastal streams*.

While not currently referenced anywhere in the Basin Plan, the Monterey Formation is a well-documented hazard for water quality in California[3], and site-specific information submitted with our report shows that multiple water quality standards in the Basin Plan are currently set at levels more stringent than those that occur naturally due to this source in the Malibu Creek watershed, and possibly also in other watersheds where this Formation occurs. Revised, drainage-specific water quality objectives (SSOs) are needed now[4].

We acknowledge the burden this natural source issue places on LARWQCB staff in the upcoming Triennial Review, and it is not our intent to propose a new project in competition with the priorities presented in the staff report. Rather, we raise this issue because it intersects with several of the priority projects envisioned in the staff report and, while not necessarily addressed explicitly in the staff report, it is not clear how these projects might meet their proposed objectives without addressing such a well-documented source of naturally sub-standard water quality.

We also note that seven of the priority projects identified in the staff report involve on-going projects underway since the Regional Board approved them during the previous 2008 – 10 Triennial Review. In light of the Regional Board's limited staff resources for this work, we ask that that priority be given to addressing the growing backlog of issues related to existing water quality standards to fulfill the primary purpose of Triennial Review as stated in §303(c) of the Clean Water Act – the review of existing water quality standards to incorporate new information. If it is necessary to complete this task, we ask that the LARWQCB defer those projects in the staff report that primarily entail the development of new policy and guidance documents.

Our specific comments below on LARWQCB priorities follow the order of their presentation in the September 14, 2011, staff report. *Priorities marked with an asterisk (*) indicate projects deemed a priority by the JPA in the event that limited staff resources precludes the completion of all of the projects proposed in the LARWQCB staff report.* These include Project No. 3 (admin update) from the previous 2008-10 Triennial Review, and Project Nos. 2 (review of groundwater objectives) and 9 (review of Muni objective) from the 2011-13 proposed list.

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2. LVMWD Report No. 2475.00. Water Quality in the Malibu Creek Watershed, 1971-2010. Existing conditions, historical trends, and data interrelationships. Submitted to the LARWQCB Executive Officer on March 31, 2011, by the JPA in compliance with LWRWQCB Order No. R4-2010-0165. 98 pp.
3. http://energy.cr.usgs.gov/TraceElements/monterey.html
4 . The state Department of Water Resources (DWR) recently notified the Leadership Committee of the Greater Los Angeles Integrated Regional Water Management Plan (IRWMP) of its intention to award over $25 million dollars over the next three years in state grants to local projects to meet water quality standards found in the Basin Plan and other planning documents.

Specific Comments

A. Existing Projects from 2008-10 Triennial Review

1. Re-evaluate application of bacteria objectives.

Recommendation: The JPA supports the priority assigned to this re-evaluation.

Rationale: Recent scientific findings by the US Geological Survey and the Southern California Coastal Water Research Project demonstrate that bacteria levels as currently measured at local beaches include a large fraction of bacteria from non-anthropogenic sources, and that exceedances of the bacteria objectives in the current Basin Plan are strongly correlated with tidal rinsing of these sources from local beaches and estuaries into the surf zone, where monitoring takes places. Aside from their use in determining regulatory compliance, these data are subsequently used as the basis of "beach report cards" to indicate the level of risk associated with swimming at various local beaches throughout the region. For both of these reasons, it is essential that the bacteria objectives in the current Basin Plan be re-evaluated for their validity as accurate indicators of pathogenic risk.

2. Reconsider the application of REC-1 and REC-2 beneficial uses in specific instances.

Recommendation: We concur with LARWQCB staff that these beneficial uses warrant review and revision as appropriate where site-specific conditions preclude or substantially limit these uses regardless of water quality.

Rationale: The Los Angeles and Ventura basins include many locations where the need to protect property from flooding during storm events is critical, albeit at the expense of complete public access to every mile of every waterbody currently listed as supporting recreational uses. Accordingly we support the re-evaluation of these uses in these basins where conflicts between these two competing uses (flood control and recreation) can be demonstrated.

*3. Complete an administrative update of the Basin Plan.

Recommendation: We concur with the staff recommendation *with the expectation that this administrative update will include an update to the Plan's description of the basin's geologic setting in Chapter One.*

Rationale: LARWQCB staff acknowledged at the September 14, 2011, hearing that the last update of the Basin Plan was in 1994, noting that several administrative sections, while not specifically addressing water quality standards, would nonetheless benefit from incorporating more recent, Geographic Information System (GIS) based maps and descriptions of the basin's hydrologic units, geology, climate and land use. As currently written, the Plan's description of the region's geologic setting in Chapter 1 is mainly academic in nature, offering little information of practical value for the public or water resource managers. Regarding ground water resources, it merely notes that many of the basin's groundwater aquifers consist of sediments eroded from uplifting terrain and deposited as the sea retreated from low-lying basins (e.g. the San Fernando Valley, the San Gabriel Valley and the Los Angeles coastal plain). It neglects to mention that in aquifers where these sediments are eroded from Miocene marine formations, such as the

Monterey Formation, groundwater cannot be used for municipal water supplies due to high levels of sulfate and high counts of radioactive particles. The cost of treating this groundwater to meet municipal drinking water standards would likely exceed the cost of ocean desalination for the same purpose.

In light of the limited staff time available for this administrative update, the JPA would like to extend an offer to provide draft text for this non-regulatory section of the Basin Plan, including GIS based maps showing the locations of known surface exposures of Monterey Formation in the basin. *We believe it to be in the best interest of everyone in the region to be aware of the potential surface and ground water quality hazards associated with this unusual petroleum source rock.*

4. Complete work on the Design Storm project should funding become available.

Recommendation: We support the priority assigned to this project if it does not require further deferral of other projects explicitly intended to update existing water quality standards in the current Basin Plan.

Rationale: Our understanding is that the completion of the Design Storm project is important for the development of the regional MS4 permit. Several public agencies involved in developing this permit have cited its uncertain status as a disincentive to participating in voluntary changes to coordinate and consolidate their water quality testing with other monitoring programs in the Malibu Creek watershed. Completing the MS4 permit and its associated Design Storm project may therefore also advance our efforts to facilitate the development of a comprehensive watershed-wide monitoring plan in this watershed.

5. Continue work on the hydromodification policy.

Recommendation: Defer to next Triennial Review cycle.

Rationale: As for the previous project, the JPA believes this project should be deferred pending the completion of other projects explicitly intended to update *existing* water quality standards in the current Basin Plan. Furthermore, the JPA's long experience with the hydromodification issue has been very disappointing in practice. The JPA has spent well over $10 million dollars since 1997 to comply with a hydromodification-driven prohibition on summer discharges of highly treated wastewater to Malibu Creek, adopted on the theory that it would result in reduced bacteria levels at Surfrider Beach and reduced algal growth in lower Malibu Creek. Over a decade of post-prohibition monitoring has shown no improvement in either bacteria or algae levels in either location.

In complying with the "no summer discharge" requirement, both the JPA and the LARWQCB have also had to navigate potential conflicts with the federal Endangered Species Act, resulting in an administratively and operationally-difficult balancing act to ensure that reduced non-native flows in Malibu Creek do not impact endangered steelhead trout. The only means of accomplishing this was to suspend the no-discharge requirement during exceptionally low flow (< 2.5 cfs), supplying flow augmentation at precisely the time this water is needed the most to supply recycled water irrigation in upstream communities. In theory, a hydromodification policy could address these kinds of issues. However, in practice, we seriously doubt that any policy can foresee even a fraction of the practical issues attending the wider application of hydromodification requirements

throughout the region. Regardless, given our "on the ground" experience with this issue, we can only conclude that it would absorb an enormous amount of time to achieve a policy that adequately addresses the practical consequences of hydromodification regulation, especially in water bodies in both urban and agricultural settings where the native hydrology has been continually modified for decades.

We ask the LARWQCB to stay focused on ensuring that existing water quality standards are up to date before pursuing new initiatives, especially one of this magnitude.

6. Provide support to other Regional Board programs.

Recommendation: No position.

Rationale: The amount of time needed to provide this support in relation to the other project priorities is not clear from the staff report. We assume this activity would not appreciably impact the time available to LARWQCB staff for the other projects described in the Staff Report. If this assumption is incorrect, then it underscores the need to defer new work that is not directly related to the primary purpose of Triennial Review, i.e. to review the adequacy of existing standards in light of new information.

7. Address legal and regulatory mandates, including assistance in the development of salt and nutrient management plans.

Recommendation: As for the administrative update, we concur with the priority assigned to this task *if it addresses the equivalent need in this region to consider local geology and native sources of salts and nutrients* in the development of salt and nutrient management plans or other regulatory mandated actions such as TMDL development.

Rationale: Along with naturally high levels of sulfate and other dissolved salts, the Monterey Formation is a documented source of nutrients, and was historically mined in Orange County for phosphorus. Failure to consider native sources of nutrients in the Malibu Creek watershed has already resulted in a nutrient TMDL whose targets cannot be met due to naturally high levels of phosphorus from the Monterey Formation in Malibu Creek's northern tributary streams[5]. If implemented, this TMDL and, potentially, any salt and nutrient management plans based on it, could require substantial reductions in the use of recycled water for outdoor irrigation in the JPA's service area to attain a phosphorus target based on national guidance that cannot be met in the watershed due to well-documented natural, site-specific geologic factors.

Site-specific geological factors may have also been overlooked in other mandated TMDLs. Along with sulfate and uranium, the Monterey Formation is also known to be enriched in many metals relative to other marine sedimentary rock. Failure to recognize this source will likely have significant economic, regulatory and legal repercussions in the Los Angeles basin. For example, beyond noting anomalously high selenium levels in the upper Los Angeles River, attributed to an "unknown" natural geologic source, the recently approved TMDL for metals in the Los Angeles river overlooked the Monterey Formation along the entire base of the northern Santa Monica

5. See p. 37 and Section 3 of our March 31, 2011, report on water quality in the Malibu Creek watershed.

Mountains from Calabasas to Griffith Park and the Los Angeles Civic Center. In the Malibu Creek watershed, the Monterey Formation "sheds" metals at concentrations significantly higher than those measured in urban runoff or treated wastewater. While the areal extent of the Monterey Formation decreases moving east along the southern San Fernando Valley, it may still be contributing significant quantities of metals to local ground and surface water runoff into the Los Angeles River.

There is also substantial evidence that macroinvertebrate bioassessment scores may be adversely impacted in streams receiving surface and ground water from the Monterey Formation, inadvertently triggering TMDLs to "restore" these scores to reference levels found in in other marine sedimentary, as well as non-marine and igneous provinces throughout southern California.

We do not question the legal mandate to develop these regulatory documents. But we ask that they *follow the guidance already present* in various federal and state policies for confirming that exceedances of water quality standards are not due to natural sources or, if they are, that the Regional Board take prompt action to develop Site Specific Objectives (SSOs) under the Clean Water Act to adopt a more realistic standard.

B. New Projects proposed for the 2011-13 Triennial Review

1. Identify and assign beneficial uses to coastal streams that are currently unnamed in the Basin Plan.

Recommendation: Defer to a later Triennial Review cycle.

Rationale: While an admirable goal – we like our coastal streams - we question the high priority assigned to the addition of streams not previously identified in the Basin Plan in light of the Regional Board's limited resources and the ephemeral nature of nearly all of the small coastal streams not currently identified in the Basin Plan. Regional Board staff is already struggling to adequately administer the CWA just for those waterbodies already identified in the Basin Plan, as demonstrated by the number of waterbodies requiring EPA intervention (e.g. Consent Decree) due to limited Regional Board staff resources. Beyond these time and resource constraints, most unidentified coastal streams drain largely undeveloped lands, where beneficial uses are less likely to be impaired to begin with.

Instead, given the fact that the state is developing procedures, targets and a regulatory process for benthic macroinvertebrate bioassessment for wadeable perennial streams, a higher priority should be to determine which stream segments those regulations would apply to. The Regional Board will need to know which streams are perennial and which are not. The state will develop procedures, targets and regulations for non-perennial streams at a later date.

*2. Development of a Groundwater Quality Protection Strategy.

Recommendation: We support this priority if the assessment of existing groundwater quality - identified as a key element in the staff report - includes the drafting of recommendations to update groundwater quality objectives to incorporate recent scientific and technical information

on the Monterey Formation and other natural sources of poor groundwater quality[6].

Rationale: While updated groundwater quality objectives might reasonably be assumed under the scope of work outlined in the staff recommendation, our concern is that, in the effort to develop new standards to protect groundwater quality, the LARWQCB not overlook the equally-compelling need to update existing standards to reflect the actual native groundwater quality in aquifers either located in petroleum source rock formations or alluvium derived from these sources. See our General Comments and specific comments on Project No. 3 (Basin Plan administrative update).

3. Policy for interpreting narrative objectives.

Recommendation: We support this priority, although we note that all of the considerations suggested for this policy in the staff report are already found in various existing federal and state policies. This begs the question of the extent to which these considerations were taken into account when applying this narrative standard in individual NPDES permits. Does the LARWQCB envision reopening existing permits at the request of individual NPDES permittees should the revised policy differ from past practice? We ask the LARWQCB to clarify the reopener issue.

Rationale: The JPA has long experience with the interpretation of narrative objectives and their translation into numeric limits in NPDES permits. Accordingly, we support the staff recommendation on this issue on the expectation that the effort will address some of the following issues, drawn from our real-world experience with how narrative objectives have been translated into numerical limits in our service area:

- The use of algal cover metrics originating in the New Zealand Periphyton Guidelines (Biggs, 2000)[7] to determine attainment or non-attainment of the biostimulatory substances narrative objective. The use of these metrics to determine impairment has historically completely overlooked the caveats given in this guidance, cautioning users attempting to apply its thresholds to streams in drainages with significant deposits of marine tertiary siltstones, which in New Zealand - as well as in the LA Basin - can and do contain naturally high phosphorus levels, a biostimulatory substance. See p. 37 of our March 31, 2011, report to the LARWQCB (ibid).

- The use of national and "ecoregion" US EPA guidance on nutrient targets, ignoring caveats found in virtually all nutrient target guidance documents *on the need to consider site-specific factors such as the geology of the watershed being considered.* In the Malibu Creek watershed, the use of national guidance when setting the summer nutrient TMDL targets forced the JPA to divert surplus recycled water to the Los Angeles River, where existing nutrient standards required the JPA to invest nearly $10 million in additional nutrient controls to meet the Basin Plan's municipal drinking water 8 mg/L nitrate limit. These controls were also necessary in the wintertime to meet the "potential" MUNI designation for Malibu Creek, despite the presence of petroleum source rock in the upper watershed that has precluded its use for municipal drinking water for over 50 years. It is

6 . Other petroleum source rock formations in the region include the Altamira Shale and Puente Formation in Palos Verdes, Redondo Beach and Torrance, and the Sisquoc Formation in the Ventura basin and the San Fernando Valley. See California Geological Survey Special Report 182, available on-line at http://www.consrv.ca.gov/cgs/information/publications/sr/Documents/SR194_Report.pdf.

7 Biggs, B. J. F. 2000. *New Zealand Periphyton Guideline: Detecting, Monitoring and Managing Enrichment of Streams.* Prepared for the New Zealand Ministry for the Environment. Wellington: Ministry for the Environment.

also worth noting that during the JPA's 2005 NPDES permit hearings, several 3rd party Non-Governmental Organizations (NGOs) argued for the application of even lower numeric nutrient targets, which are exceeded in Malibu Creek due to natural nutrient sources upstream.

4. Pyrethroid pesticide water quality objectives.

Recommendation: Delay establishment of pyrethroid pesticide water quality objectives and initiate special studies for pyrethroids in urban runoff.

Rationale: Urban Sacramento was found by UC Berkeley research to be the leading source of pesticide contamination disrupting the Delta aquatic environment. MS4 permittees in Ventura County are required to implement a special study to determine the extent of pyrethroid contamination in runoff in that County. The LARWQCB should also begin by investigating the extent of contamination in this region by initiating special studies here. We acknowledge LARWQCB staff comments at the Sept. 14, 2011, hearing that pyrethroid pesticides have been detected in surface waters in our region, but we have no information on actual levels observed or frequency of detection, so it is difficult to comment on the need for water quality objectives for this pesticide within our jurisdiction.

5. Directory of environmental screening levels for contaminants of concern at contaminated sites.

Recommendation: No position.

Rationale: To our knowledge there are no contaminated sites within our service area.

6. Constituents of emerging concern (CECs).

Recommendation: We support the priority assigned to this project with some caveats.

Rationale: We support the need identified in the staff report to coordinate NPDES permit Monitoring and Reporting Requirements (MRPs) requirements to reduce duplicative monitoring of CEC's and to optimize the information return on the collective MRP investment. However, in supporting this initiative we ask the LARWQCB to affirm that these requirements will not entail increases in the overall MRP costs per agency. This affirmation would remove a major disincentive to public agencies with limited resources to coordinate their monitoring efforts to "optimize the information return on the collective MRP investment."

7. Re-evaluate temperature objectives.

Recommendation: While we concur with the staff report that the application of the Basin Plan's current temperature objective is hindered by the difficulty of determining "natural" water temperature, the approach outlined in the staff report does not appear to offer much advantage over the present method, and may be very difficult or impractical to implement.

Rationale: With respect to implementation, the alternative approach appears to assume that the temperature tolerances of the most sensitive life stages of the aquatic species within the region are well known in the scientific literature. Some are – many, if not most, are probably not. Regarding advantages over the present method, the alternative approach would probably preclude any inland summertime discharge warmer than the ambient temperature of the receiving water. This is because the most heat-sensitive aquatic species are probably those species already at the southern limits of their latitudinal ranges, and would be impacted by *any* increase in water temperature beyond the ambient summer water temperatures in their current locations (whether these temperatures are "normal" or not). The approach would essentially eliminate the five degree difference currently allowed under the existing standard. Inland dischargers would thus face the difficult choice of either cooling their discharges in summer - an expensive proposition of unknown economic consequences for both water and energy utilities – or building facilities to divert at least their summertime flows to existing or new ocean outfalls, also a difficult, expensive and politically challenging alternative.

In our opinion these problems argue for retaining the existing temperature objective in the Basin Plan, which does a reasonable job of ensuring that dischargers do not elevate inland surface water temperatures beyond their existing temperatures.

*8. Reevaluation of the potential MUNI beneficial use designation.

Recommendation: We support the staff recommendation.

Rationale: The "potential" Municipal Drinking Water Supply designation dates to the severe statewide drought of the early 1990's, when it was adopted by the state at the urging of water utilities to streamline the permitting of new water sources. Since then, however, it has resulted in the expenditure of vast sums of public funds to comply with drinking water standards in watersheds and sub-watersheds incapable of supporting this use due to naturally poor water quality. A review of this designation across the region is long overdue, and is timely given the increasing cost of compliance with ever more stringent drinking water quality standards.

In our opinion, whether designating or de-designating a water body or aquifer for municipal drinking water supplies, the Regional Board should give substantial weight to two factors. First, the Regional Board should distinguish between waterbodies whose *natural* water quality does not meet current standards for municipal supply and those for which the standard is not met because of anthropogenic degradation. The existing exception for naturally high salt levels is set too high and is too "broad-brush" in that it does not account for the specific major ions responsible for a high overall salt load, nor does it recognize that some salts are easier or less costly to remove than others. Second, the policy should explicitly give more weight to the professional judgment of the water utilities actually providing drinking water for municipal supply in the affected areas, and less weight to whether the use of new or future technologies might render these waters fit for human consumption.

In closing, we wish again to express our appreciation for the opportunity to share our comments on the upcoming 2011-13 Triennial Review. We hope they will assist you and your staff in determining the Regional Board's priorities for this important effort. Please feel free to contact either myself or our staff at (818) 251-2100 if we can be of further service.

Sincerely,

John R. Mundy
General Manager