December 5, 2017

California Regional Water Quality Control Board
Los Angeles Region
Attn: Dr. Celine Gallon
325 W. 4th Street, Suite 200
Los Angeles, CA. 90013

Submitted via email: Celine.Gallon@waterboards.ca.gov

Subject: 2017 Triennial Review of the Water Quality Control Plan for the Los Angeles Region

Dear Dr. Celine Gallon:

Thank you for the opportunity to provide comments on the 2017 triennial review of the Water Quality Control Plan for the Los Angeles Region. These comments address the issues identified in the notice for the triennial review, dated November 6, 2017, and also present several new issues for the Regional Board's consideration.

The attached comments are based on a review of the issues from the perspective of potential impacts on stormwater permittees, including municipalities subject to Phase I and Phase II permits, industries regulated by the Industrial General Permit, and construction projects subject to the Construction General Permit. The comments also consider impacts on new categories of permittees such as school districts which may be included under the Phase II permit in the near future. The comments attempt to cover the key issues affecting permittees and offer suggestions for addressing permittee concerns and making improvements to the water quality standards in the Basin Plan.

The comments are specifically focused on current Basin Plan objectives that potentially cause waterways to be identified as impaired or result in apparent permit violations when, in fact, no environmental harm or public health risk is present. Modifying these objectives by adopting U.S. EPA recommended water quality criteria and by making other science-based changes will allow the regulated community to focus on pollutants and water quality conditions with demonstrated adverse effects on water quality. Hopefully, these comments are useful as the Regional Board considers revisions to the Basin Plan.

Thank you again for the opportunity to comment on the issues being considered for the triennial review. My comments are attached. If you have any questions, please contact me at (510) 843-7889 or fkrieger@msn.com.

Sincerely,

Fred Krieger

Attachment A: Comments on Notice for Los Angeles Region Triennial Review
Attachment B: Natural Background Concentrations during Wet Weather in Southern California Creeks

cc: Eileen Sobeck, State Water Board
Jonathan Bishop, State Water Board
Samuel Unger, Los Angeles Regional Water Board

Attachment A

Comments on the 2017 Triennial Review for the Los Angeles Region

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Comment 1: **Adoption of the U.S. EPA 2007 recommended freshwater criteria for copper**

During this triennial review, the Regional Board should consider adoption of U.S. EPA's 2007 recommended water quality criteria for copper as the applicable copper objectives in the Basin Plan. As discussed in the notice, the Regional Board will focus the review on an assessment of the water quality criteria recommendations published by U.S. EPA since May 30, 2000. This review for possible adoption of updated U.S. EPA criteria is required by the 2015 modifications to the federal water quality standards (WQS) regulations. Earlier updating of the Basin Plan with the 2007 copper criteria would have saved dischargers to the Los Angeles River watershed the considerable expenditures needed to complete the Water Effect Ratio (WER) studies which were subsequently the basis for site-specific copper objectives adopted by the Regional Board. Permittees would benefit from adoption of the U.S. EPA criteria and other waterways in the Region would be appropriately classified with respect to copper impairment under CWA Section 303(d).

The current and applicable freshwater objectives for copper are based on the criteria promulgated by U.S. EPA in the May 18, 2000, California Toxics Rule (CTR). The CTR values are based on U.S. EPA's recommendation for copper criteria issued in 1984. U.S. EPA revised the freshwater aquatic life copper criteria with the 2007 update. The current copper standards in the CTR consider only the effects of hardness on the bioavailability and toxicity of copper. Because these standards do not account for the effects of pH, natural organic matter, and other characteristics they can be overly stringent or underprotective (or both, at different times).[1]

The outdated CTR standards for copper negatively impact many stormwater permittees without providing a benefit to water quality. Available monitoring data indicates that copper frequently exceeds the hardness-based CTR copper standards at the point of discharge from MS4 outfalls and this conclusion is supported in the National Stormwater Quality Database. Most stormwater permits require the discharge to not *cause or contribute to exceedances of water quality standards* in the receiving water. Exceedances identified by monitoring can result in permit violations and permits also require dischargers to implement revised programs or best management practices to address exceedances. Unfortunately, stormwater treatment BMPs to adequately reduce copper concentrations are not feasible. Consequently, permittees must develop site-specific objectives and modify the standards in order to bring their discharges into compliance. Development of site-specific objectives typically requires several million dollars in permittee expenditures and many years of effort.

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[1] U.S. EPA Office of Science and Technology, Presentation, Water Quality Standards Academy. *Biotic Ligand Model and Copper Criteria*. March 2016, posted here.

For most waterways, the problem of copper exceedances and apparent risk to aquatic organisms could be resolved with adoption of the U.S. EPA 2007 criteria which are based on the Biotic Ligand Model (BLM). The BLM more thoroughly takes into account local water chemistry as compared to the current CTR hardness-based criteria. Dissolved organic carbon, pH, and other parameters used in the BLM significantly affect toxicity and the BLM approach presents a better assessment of risk to aquatic organisms than the CTR criteria. U.S. EPA has indicated that use of the 2007 copper standards based on the BLM will result in fewer water bodies being listed as impaired due to copper. U.S. EPA states: "We expect that application of this model will result in more appropriate criteria and eliminate the need for costly, time-consuming site-specific modifications using the water effect ratio."[2] In addition, U.S. EPA's Science Advisory Board (SAB) has found that, in general, the BLM can "significantly improve predictions of the acute toxicity of certain metals across an expanded range of water chemistry parameters compared to the WER".[3]

In the future, the copper exceedance problem will be at least partially addressed by source control, especially controls directed at copper released from brake pads which are a major source. SB 346 (2010, Kehoe), established a program that will eventually nearly eliminate copper use in brake pads. This law resulted from collaboration between brake pad manufacturers, government agencies, and environmental groups and was also strongly supported by the California Stormwater Quality Association (CASQA). While the changeover in brake pad constituents will significantly reduce copper concentrations in stormwater runoff, the full reductions will occur many years in the future due to the lag time for changing out on-road brakes. In addition, the brake pad phase-out is unlikely to completely solve the problem of exceedances of the current CTR criteria. Full implementation of the copper phase-out has been estimated to remove roughly 60% of the copper from urban runoff in metropolitan Los Angeles area watersheds. This estimate is supported by the CASQA report, *Estimated Urban Runoff Copper Reductions Resulting from Brake Pad Copper Restrictions*.[4] Consequently, more reductions—beyond those resulting from the brake pad phase out—will be needed for waterways and dischargers to comply with current, non-updated, CTR standards. The costs for site-specific standards and related compliance problems will be avoided if the Regional Board adopts the U.S. EPA 2007 updated criteria for copper.

[2] U.S. EPA. *Aquatic Life Ambient Water Quality Criteria - Copper, 2007 Revision*. EPA-822-R-07-001. February 2007, posted here.

[3] U.S. EPA. *An SAB Report: Review of the Biotic Ligand Model of the Acute Toxicity of Metals*, EPA-SAB-EPEC-00-006. February 2000, posted here.

[4] CASQA. *Estimated Urban Runoff Copper Reductions Resulting from Brake Pad Copper Restrictions*. 2016, posted here.

Suggestion:
1. Prioritize the adoption and incorporation of the U.S. EPA 2007 recommended criteria for copper (freshwater) into the Basin Plan.

***Comment 2*: Changes in the use of Primary Maximum Contaminant Levels (MCL) as surface water standards**

The current approach in the Basin Plan of applying drinking water standards to surface waters should be reconsidered, at least for aluminum. The Basin Plan currently incorporates the primary drinking water standards (i.e., primary maximum contaminant levels, MCLs) as water quality objectives (WQO) by reference to Title 22, California Code of Regulations.[5] These objectives apply to waterways designated with the municipal and domestic supply beneficial use (MUN). The drinking water standards were developed for finished drinking water to protect public health. In the case of aluminum, applying these standards to surface waters is significantly over-protective and results in frequent exceedances due to the presence of natural soil constituents in surface waters. The exceedances of the aluminum drinking water standards due to natural soils do not threaten the environment or public health and but potentially place many waterways in non-compliance with the standards and permittees in non-compliance with their permits.

As described in Chapter 2 of the Basin Plan, all inland surface and ground waters are designated as MUN, presuming at least a potential suitability as a source of drinking water. However, many of these MUN classifications are also designated with an asterisk indicating that the MUN designation will be considered for exemption at a later date. Most inland waterways have the asterisk designation and apparently the Regional Board does not currently enforce the MUN standards for these waterways or require that MS4s report exceedances of the primary MCLs.[6] At some time in the future, however, many or most of these waterways will be identified by the Board as suitable, or potentially suitable, for municipal or domestic water supply as required under State Board Resolution No. 88-63. When this reevaluation occurs, many waterways will likely be identified as impaired, at least during wet weather. Dischargers will also be identified as violating permit requirement to comply with WQS – in this case, the primary MCLs applied to MUN waterways. Consequently, it is necessary to clarify the appropriate application of the drinking water MCLs—especially the MCL for aluminum.

Many of the Los Angeles Region waterways exceed the aluminum MCL during wet weather and some also exceed the MCL standards in dry weather. These exceedances occur very frequently

[5] See California MCLs - posted here.
[6] At least one Los Angeles Region MS4 has reported aluminum exceedances for MUN-designated waterways.

during wet weather because turbidity becomes naturally elevated and surface soils are mobilized at higher concentrations. These exceedances also occur in stormwater runoff because natural soils may be carried in the runoff. Aluminum constitutes roughly 7% of natural surface soils in California and very low concentrations in waterways or in stormwater runoff results in significant exceedances. *See Table 1*:

Table 1 – Potential Exceedance of Aluminum Objective by Natural Soils in Waterways

Constituent	**Background Soil Concentration** (1)	**Concentration (TSS = 100 mg/L)** (2)	**Objective Based on Primary MCL**
Aluminum	7.3%	7.3 mg/L	1.0 mg/L

(1) Average (from *Background Concentrations of Trace and Major Elements in California Soils*, UC Riverside, 1996, posted here.)

(2) Assumes that most or all Al is in particulate form.

An estimated TSS concentration of 100 mg/L was used in the table above because it is a typical value in stormwater runoff from highways and urban areas. Also, waterways un-impacted by human activity will often have TSS concentrations above 100 mg/L during wet weather. Researchers from the Southern California Coastal Water Research Project assessed seventeen natural (i.e., un-impacted) southern California creeks during wet weather and found a median TSS of 184 mg/L and a much higher average value (see Attachment B).

Because of the ubiquitous presence of aluminum in soils, exceedances in waterways and also in stormwater runoff will be significant as indicated in the table. It should also be noted that the original 2008 lawsuit by NRDC and Santa Monica Baykeeper (now Los Angeles Waterkeeper) against Los Angeles County and Los Angeles County Flood Control District, identified fecal coliform, copper, and aluminum as having the highest rates of exceedances.[7] Most of this aluminum was almost certainly from natural sources.

This problem of exceedances of the MCL-based aluminum objective is also demonstrated by a historical evaluation of aluminum concentrations in Ventura County waterways during wet weather. The Ventura Countywide Stormwater Quality Management Program (VCSQMP) prepared an assessment of aluminum in three major watersheds.[8] This assessment found that 74.2 percent of all wet weather water quality samples collected by the VCSQMP exceeded the 1 mg/L objective. However, in natural watersheds upstream from anthropogenic activities, 100% of wet weather samples exceeded 1 mg/L.

[7] Case No. CV 08-1467 BRO (PLAx); also see settlement agreement, posted here.

[8] Larry Walker Associates. *Historical Data Evaluation of Aluminum in the Ventura River, Santa Clara River, and Calleguas Creek Watersheds*. June 2014.

In summary, a relatively low level of suspended solids composed of mostly or only natural soils carries enough natural aluminum to easily exceed the drinking water standards when these standards are used as water quality objectives for surface waters. A permit violation could occur when these drinking water-derived standards have been translated into water quality-based effluent limits or in situations where the permit requires compliance with water quality standards, as in most stormwater permits. Since most non-saline surface waters in California are designated with the MUN beneficial use, the potential for exceedances and permit violations is widespread and will increase in future years as the Regional Board further clarifies the MUN designations and as more waterways and discharges are monitored for aluminum.

Suggestions:

1. Evaluate environmental and compliance impacts of the aluminum and other primary MCLs used as surface water standards. The assessment would focus on environmental and public health effects as well as on waterway impairment classifications (CWA 303(d) list) and on the compliance status of stormwater and other discharges.

2. Assess whether the application of the primary MCLs could be improved by limiting the targeted pollutants to those constituents with the potential to pass through drinking water treatment facilities and threaten public health. For example, dissolved constituents have a much higher potential to pass through treatment than particulates, which are effectively removed by standard treatment practices. In other words, apply these drinking water standards to surface waters when the regulated pollutants or parameters have the potential to adversely impact the finished drinking water as delivered to consumers. Aluminum from natural sources is very unlikely to have adverse impacts; in fact, drinking water treatment plants often add aluminum sulfate (alum) to promote coagulation, flocculation and precipitation.

3. Consider filtration of the sample prior to analysis to partially replicate the treatment applied to raw drinking water in drinking water treatment facilities. This alternative approach is being considered by the Central Valley Regional Water Board during their ongoing triennial review for addressing the secondary MCLs. The Central Valley Board *Issue 6: Secondary Maximum Contaminant Levels (MCLs) as Water Quality Objectives for Surface and Ground Waters* will assess the option of determining compliance with secondary MCLs by using a filtered water sample for analysis for metals, color and turbidity.

   This alternative approach of filtering the sample prior to analysis has been implemented in New Mexico, with approval from U.S. EPA. The goal is to remove or minimize the "mineral phases" present in the sample. This approach is being used to reduce the natural particulates and other soil residue which normally carry a significant portion of the aluminum but which do not present a risk to aquatic organisms or consumers. The filtration step prior to analysis is described in the New Mexico standards:

> *For aluminum, the criteria are based on analysis of total recoverable aluminum in a sample that is filtered to minimize mineral phases as specified by the department.*

If MCLs must be applied to surface waters in the Los Angeles Region, filtration prior to analysis may be an appropriate approach because it will eliminate most of the compliance problems caused by constituents naturally present in waterways but which do not present a risk to drinking water.

4. Implement a natural source exclusion policy as discussed later.

Comment 3: Natural Source Exclusion Policy

The notice indicates that basin planning staff may consider issues raised during the previous triennial review including development of guidance or policy to address naturally occurring chemical constituents that may be exceed water quality objectives. These naturally occurring constituents include aluminum, as discussed above, bacteria, nutrients, and other regulated pollutants.

Suggestions:

1. Develop a policy for making natural source determinations to address exceedances in waterways and stormwater discharges caused or contributed to by natural sources.

2. In addition to bacteria, aluminum, selenium, iron, and nutrients, this natural source policy could potentially address the problem of naturally occurring magnesium resulting in exceedances of the Industrial General Permit magnesium NAL. Magnesium is naturally present in soils at about 1% and has a numeric action level (NAL) of 0.064 mg/L. The magnesium NAL is derived from the Method Detection Limit (MDL) and is not based on any risk to aquatic organisms[9] or public health.[10] The magnesium NAL is frequently

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[9] A water quality guideline value of 0.8 mg/L has been suggested as appropriate for waters with calcium-deficient waters and a very low ionic concentration. The guideline for non calcium-deficient waterways is 2.5 mg/L. See van Dam, RA, et. al. *Aquatic toxicity of magnesium sulfate, and the influence of calcium, in very low ionic concentration water*. 2010, posted here.

[10] The IGP NAL is borrowed from the benchmarks in U.S. EPA's Multi-Sector General Permit (MSGP, as reissued). The MSGP magnesium benchmark was originally established based on the method detection limit times a factor of 3.18 without reference to aquatic toxicity or public health. See 2015 MSGP Fact Sheet, posted here.

exceeded by industrial dischargers. A recent report[11] based on SMARTS data indicated a 95% exceedance rate in the Central Valley Region and exceedances in the Los Angeles Region may be similar. The problem could be partially resolved by the filtration of samples prior to analysis which would remove particulate magnesium naturally present in soils. The Regional Board may need to work with the State Water Board to ensure that IGP NAL compliance is assessed on the basis of a natural source exclusion policy.

Comment 4: Update zinc criteria using the Biotic Ligand Model

Similar to copper, the water quality objectives for zinc should be updated based on a Biotic Ligand Model. The BLM more accurately assesses the risk of aquatic toxicity compared with the current objective which is only hardness dependent. Similar to copper, zinc in stormwater runoff is caused by sources outside the control of MS4s. These sources include tires which typically contain about 1% zinc, galvanized surfaces, and building surfaces. The on-road abrasion of tire tread results in both airborne and surface particulates containing zinc. Much of this zinc remains on road surfaces and is eventually washed away by rain and carried by stormwater runoff into waterways. Aerially transported zinc particles from tires are deposited onto land surfaces and may also be carried by stormwater into waterways. During wet weather, most of the zinc loadings are in particulate form in the storm water runoff. On an annual basis, storm water contributes about 90% of the zinc loading to the Los Angeles River.[12]

Updating the zinc objective is particularly critical because of the difficulty of dischargers in meeting zinc allocations in existing and future metals TMDLs. CASQA is preparing a petition regarding zinc in tires for submittal to the California Department of Toxic Substances Control (DTSC) Safer Consumer Products program. However, zinc is not currently on the Priority Products list and placing it on the list is a multi-year process. If zinc is listed, a significant amount of time will be needed for the tire industry to complete the necessary studies to evaluate the potential for replacing zinc in tires. If ultimately approved and mandated by DTSC, the changeover in the zinc composition of tires will also take many years similar to the copper phase-out from brake pads. Even if approved, a DTSC-based zinc phase-out will not impact zinc in runoff in timely manner and allow dischargers to meet the TMDL final wasteload allocations.[13]

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[11] Dixon, David. *Natural Background Source Demonstrations (NBSD).* CASQA Presentation. 2017, posted here. The report also identified a 70% exceedance rate for the total aluminum NAL and 50% for the total iron NAL. Both Al and Fe are common in natural soils (approx. 7% and 3% respectively).

[12] Los Angeles Regional Water Quality Control Board. *Attachment B - Amendment to the Water Quality Control Plan for the Los Angeles Region to Revise the Los Angeles River and Tributaries Metals TMDL*. April 9, 2015, posted here.

[13] TMDL implementation plan final deadlines for controlling zinc appear to be 2024 in the Marina del Rey Harbor and 2026 in the Los Cerritos Channel. Also see the Rio Honda example discussed in the text.

An example is the Rio Honda Reach 1 which has a zinc allocation as part of the Los Angeles River Watershed TMDL. The key target dates are:

Date	Action
January 11, 2024	Each jurisdictional group shall demonstrate that 100% of the group's total drainage area served by the storm drain system is effectively meeting the dry-weather WLAs and 50% of the group's total drainage area served by the storm drain system is effectively meeting the wet-weather WLAs.
January 11, 2028	Each jurisdictional group shall demonstrate that 100% of the group's total drainage area served by the storm drain system is effectively meeting both the dry-weather and wet-weather WLAs.

The required zinc reductions do not appear feasible given the lengthy timeline for removing zinc from tires. A BLM-based zinc objective may indicate that the current zinc allocations are over-protective due to the presence of organic materials in the waterways or other waterway physicochemical characteristics. In addition, a BLM-based zinc objective may facilitate compliance by other (non-TMDL) dischargers.

The current zinc criteria may also present a problem for school districts when these districts are included in the Phase II permit. Playground equipment and other school structures often contain galvanized metal. Shredded tires are also used in playgrounds or as mats under playground structures. These tire-based playground materials may contribute to zinc in runoff making compliance difficult. The Phase II permit specifies:

> *Discharges shall not cause or contribute to an exceedance of water quality standards contained in a Statewide Water Quality Control Plan, the California Toxics Rule (CTR), or in the applicable Regional Water Board Basin Plan.*

The current zinc criteria in the California Toxics Rule of 120 µg/L (acute and chronic, hardness-dependent) were updated in 1995 using two studies from the 1980s.[14] U.S. EPA has not updated its recommended water quality criteria for zinc using the BLM approach, but is planning to do so.[15] The BLM software is publicly available and could be used by the Regional Board. The BLM approach has been sanctioned by EPA and, as discussed above, was used by EPA in the development of the current recommended criteria for copper.

[14] U.S. EPA. *1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water*, EPA-820-B-96-001. September 1996, posted here.

[15] U.S. EPA. *Water Quality Standards Academy, Biotic Ligand Model and Copper Criteria*. March 2016, posted here. "EPA is also investigating BLMs for aluminum, zinc, lead."

Suggestions:

1. Update the Basin Plan zinc objectives using the biotic ligand model and the substantial body of zinc toxicity data collected since the 1980s.

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Comment 5: Drinking Water Secondary Maximum Contaminant Levels Referenced in Water Quality Objectives

The applicability of the drinking water secondary Maximum Contaminant Levels[16] (secondary MCLs) in the Basin Plan is not clear. Chapter 3 of the Basin Plan includes the water quality objective for turbidity. The objective is part narrative and part numeric and includes this statement:

> *The secondary drinking water standard for turbidity is 5 NTU (nephelometric turbidity units).*

Is this a water quality objective (criteria) applicable to waterways and permittees in the Los Angeles Region? The status or applicability of the secondary MCL for turbidity is not clear from the context in the Basin Plan. If the turbidity MCL is an enforceable objective, permittees will have a very substantial challenge achieving compliance. Turbidity very frequently exceeds 5 NTU in stormwater runoff and also in many natural waterways during wet weather. A high level of treatment would be needed for stormwater to achieve a 5 NTU limit. The secondary MCLs, including the turbidity limit of 5 NTU, are consumer acceptance contaminant levels developed for finished drinking water. They are considered non-mandatory by EPA and do not present a risk to human health at these levels.[17]

The benefits of achieving 5 NTU in surface waters appear limited since drinking water treatment facilities provide a high level of treatment to their raw water including coagulation/precipitation and filtration. Treatment in a drinking water treatment plant can be designed to address a relatively constant flow. The volume of stormwater runoff is highly variable and providing adequate treatment to achieve the 5 NTU limit would be technically very difficult as well as very costly.

In addition, because turbidity levels naturally fluctuate, such as during storm events, the turbidity objectives for surface waters should be expressed in seasonal ranges or with allowable occasions of exceedance in order to duplicate natural storm conditions. This approach appears potentially

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[16] Title 17 Code of Regulations. *California Regulations Related to Drinking Water*. September 14, 2017, posted here - see page 127.

[17] U.S. EPA. *Secondary Drinking Water Standards: Guidance for Nuisance Chemicals*. See here.

more appropriate for addressing turbidity when it presents an identified threat rather than simply applying the secondary drinking water standards to surface waters at all times.

The color objective in the Basin Plan contains a similar statement:

> *The secondary drinking water standard is 15 color units (DHS, 1992).*

In addition, the secondary MCLs for TDS and chloride are also included as guidance in *Table 3-10 - Water Quality Objectives for Selected Constituents in Inland Surface Waters*. Regulation of dissolved pollutants such as TDS and chloride may be more appropriate because dissolved substances are more likely than particulates (e.g., aluminum) to pass through drinking water treatment facilities.

Suggestion:

1. Specify in the Basin Plan that the reference to the secondary drinking water standards for turbidity and color are for information only.

2. Clarify how the secondary MCLs for TDS and chloride would be applied to stormwater permittees.

***Comment 6* – Clarification of Variance Policy as applied in the Los Angeles Region**

U.S. EPA's 2015 water quality standards regulations outline a comprehensive regulatory structure for WQS variances. U.S. EPA's stated goal is to promote the appropriate use of variances and to provide regulatory certainty to states and permittees as they progress toward attaining designated uses of waterways. A variance is a temporary change in water quality standards and temporarily suspends the beneficial use and associated objectives. An alternative performance standard—"interim criterion"—is needed to establish the highest attainable condition for the water body. The variance can apply to a single or multiple permittees or to waterbodies and these must be specifically identified in the variance. Variances are time time-limited; and are allowed for any of the six factors listed at 40 CFR 131.10(g). One or more of these factors could potentially apply to stormwater discharges.

The State Water Board's proposed Bacteria Provisions include a Water Quality Standards Variance Policy. The policy is very brief and generally references the variance provisions established by the 2015 federal regulations.

The policy as applied in the Los Angeles Region could be helpful in providing a standardized approach for meeting water quality standards when current compliance is not possible. For example, in many locations immediate compliance is not possible for aluminum, copper, zinc, bacteria, dioxins, selenium and several other common constituents of runoff which are outside the control of dischargers. A region-wide variance could be used to establish a feasible and equitable timeline for dischargers to comply with the objectives. For example, the variance for copper and zinc could be used to allow time for the Region to adopt updated water quality objectives based on the BLM or, in the case of zinc, to pursue the petition to DTSC.

This is particularly critical for the bacteria standards included in the Bacteria Provisions. No BMPs are currently available to disinfect stormwater to meet the expected bacteria standards. Although stormwater diversion and infiltration may be possible for some locations, a substantial portion of stormwater will still be discharged to receiving waters. It is for this reason that the State Water Board developed the Variance Policy concurrently with the Bacteria Provisions.

Areawide or Region-wide variances may also be needed for the Statewide Mercury Provisions which will introduce mercury objectives which are extremely restrictive.

Suggestion:

1. Develop a Regional Variance Policy specifically focused on the pollutants for which compliance is not currently feasible and also provide guidance for how dischargers can collectively pursue region-wide variances.

Attachment B

Natural background concentrations of total suspended solids during wet weather in southern California creeks

(*Flow weighted mean concentrations*)

Site name	TSS mg/L
Arroyo Seco	107.03
Arroyo Sequit	461.24
Bear Creek Matilija	242.25
Bear Creek WFSGR	6.29
Bell Creek	93.41
Chesebro Creek	200.85
Cattle Creek EFSGR	223.76
Coldbrook NFSGR	54.25
Cristianitos Creek	4,689.18
Fry Creek	11.08
Mill Creek	0.25
Piru Creek	5,454.92
Runkle Canyon	2,375.17
Santiago Creek	13.97
Sespe Creek	51,969.43
Silverado Creek	38.70
Tenaja Creek	184.15
Average	***3,890***
Median	***184***

Excerpted from: Stein, E. and V. Yoon. 2007. *Assessment of Water Quality Concentrations and Loads from Natural Landscapes*. Southern California Coastal Water Research Project Technical Report 500. February 2007. Appendix VIII: Wet weather concentrations, loads, and fluxes for each study site; posted: ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/500_NL_APPENDIX_VIII.pdf