

SACRAMENTO



STORMWATER  
QUALITY  
PARTNERSHIP

August 16, 2017

Letter 28



Ms. Jeanine Townsend  
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**Subject: Comment Letter – Bacteria Provisions**

The Sacramento Stormwater Quality Partnership (Partnership) appreciates this opportunity to provide comments on the proposed *Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE)—Bacteria Provisions and a Water Quality Standards Variance Policy and the Proposed Amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan)—Bacteria Provisions and a Water Quality Standards Variance Policy* (hereafter Bacteria Provisions). The Partnership is comprised of the County of Sacramento and the cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt and Rancho Cordova that are Permittees in the General National Pollutant Discharge Elimination System Permit for Discharges from Municipal Separate Storm Sewer Systems (MS4) (NPDES No. CAS0085324, Order No. R5-2016-0040; General MS4 Permit).

28.01

The Partnership has reviewed comments prepared by the California Stormwater Quality Association (CASQA) on the Bacteria Provisions; we fully support CASQA's comments in support of the State Water Resources Control Board (State Water Board)'s effort to develop the Bacteria Provisions, and we agree with the specific concerns that CASQA raised. The State Water Board's effort will provide consistency statewide through the use of recreational objectives based on the United States Environmental Protection Agency (USEPA)'s 2012 Recreational Water Quality Criteria (USEPA 2012 Criteria). The objectives reflect current epidemiologic data and consider implementation issues relevant to stormwater agencies. As noted in CASQA's comments, there are additions and adjustments to the State Water Board's proposed approach that would further improve the effectiveness and suitability for stormwater. The Partnership would like to highlight the following comments that are particularly relevant for inland, Northern California stormwater agencies:

1. Allow suspensions of Water Contact Recreation (REC-1) uses without a use attainability analysis (UAA); allow a reference system/antidegradation or natural sources exclusion approach in all waterbodies; and provide implementation guidance.
2. Allow flexibility in the sampling frequency and method of calculating the geometric mean and statistical threshold value.

The Sacramento Stormwater Quality Partnership is a joint program of the County of Sacramento and the Cities of Citrus Heights, Elk Grove, Folsom, Galt, Rancho Cordova, and Sacramento.

Ms. Jeanine Townsend  
RE: Bacteria Provisions  
August 16, 2017

3. Acknowledge the risk basis for the Bacteria Provisions.
4. Allow indicators in addition to *E. coli* and enterococci that may better characterize risk.
5. Specify how site-specific evaluations could be facilitated through the Bacteria Provisions.
6. Consider the achievability of water quality conditions within the California Water Code Section 13241 analysis.

**COMMENT 1 – ALLOW SUSPENSIONS OF REC-1 USES WITHOUT A UAA; ALLOW REFERENCE SYSTEM/ANTIDEGRADATION APPROACH AND NATURAL SOURCE EXCLUSION APPROACH TO BE APPLIED TO ALL WATERBODIES; AND PROVIDE IMPLEMENTATION GUIDANCE TO DISCHARGERS AND REGIONAL WATER BOARDS.**

The Partnership wholly supports the State Water Board's inclusion of implementation provisions that account for natural sources of bacteria and allow high flow suspension and seasonal suspension of the REC-1 beneficial use. However, the Partnership has three specific requests to improve the implementation of these provisions:

- Allow the reference system/antidegradation and natural source exclusion approaches to be applied to all waterbodies;
- Allow suspension of REC-1 uses without a UAA; and
- Provide implementation guidance to Regional Water Quality Control Boards (Regional Water Boards) and dischargers.

**28.02**

The Partnership supports the use of the reference reach/antidegradation approach and natural sources exclusion approach, which will provide Regional Water Boards with flexibility to adapt the water quality objectives (WQOs) to their specific regions. It is important that stormwater agencies focus bacteria reduction efforts on anthropogenic sources. However, the Partnership requests that these implementation tools not be limited to waterbodies that have an existing Total Maximum Daily Load (TMDL) or TMDL in development. The General MS4 Permit specifies a Pollutant Prioritization approach for permittees to implement stormwater management programs focused on their prioritized water quality constituents, to address priority water quality issues and preclude the need for TMDLs to be developed. It would be appropriate for dischargers to have the same tools available as they actively work to address bacteria as a water quality issue so as to preclude the need for TMDL development.

**28.03**

The Partnership requests that the State Water Board allow the high flow and seasonal suspension of the REC-1 beneficial use implementation provisions to be completed without a UAA. The requirement to complete a UAA requires review by USEPA, and places an unnecessary burden upon the dischargers and Regional Water Boards, which will likely impede these options from being implemented. There is precedent within Regional Water Board Basin Plans for a temporary suspension of objectives, without a UAA. The Santa Ana Regional Water Board includes criteria within the Basin Plan for temporary suspension of recreational use designations and objectives, which can be implemented without a UAA. As part of the

Ms. Jeanine Townsend  
RE: Bacteria Provisions  
August 16, 2017

work that led to the adoption of the 2012 amendments to the Santa Ana Basin Plan recreation standards, the Stormwater Quality Standards Task Force considered the merits of and various alternatives for modifying the REC-1 definition to improve clarity and precision, based on careful consideration of the scientific basis of the 1986 USEPA Recreational Criteria and earlier criteria guidance. The Santa Ana Basin Plan provides definitions for site-specific flow triggers, eligibility for temporary suspensions, engineered or highly modified channels, and for the termination of the temporary suspension. The Partnership suggests that the State Water Board either provide similar guidance, or allow Regional Water Boards to develop regional guidance for temporary suspensions without development of a UAA.

**28.04**

Thirdly, the Partnership appreciates the inclusion of these implementation options in the Bacteria Provisions, and requests that the State Water Board provide implementation guidance to the Regional Water Boards and dischargers. The implementation options within the Bacteria Provisions provide a useful toolkit, but place a significant technical burden on the Regional Water Boards and dischargers – which will result in statewide inconsistencies. Guidance developed by the State Water Board would support statewide consistency for regulatory programs and technical evaluations.

**28.05**

**COMMENT 2 – ALLOW FLEXIBILITY IN THE SAMPLING FREQUENCY AND METHOD OF CALCULATING GEOMETRIC MEAN AND STATISTICAL THRESHOLD VALUE.**

The Partnership supports the inclusion of a minimum of a six-week period for the calculation of the geometric mean (GM). However, we recommend that the Bacteria Provisions not require this calculation on a weekly, rolling basis and that the provisions allow Regional Water Boards to implement a different averaging period if justified by a site-specific analysis. A requirement for weekly, equally spaced samples is unnecessarily restrictive for stormwater programs, as it limits flexibility to adapt sampling frequency in response to weather conditions, or an exceedance.

In addition, the requirement for a rolling GM calculation may cause a single exceedance to result in repeated exceedances of the GM, long after the exceedance is no longer present. State Water Board staff noted within the Staff Report that “Using a rolling average to calculate the [statistical threshold value (STV)] could result in the reporting violations over a 6-week period where the actual violation no longer exists.” The Partnership requests that the State Water Board allow flexibility in sampling timing by removing the language in the Bacteria Provisions requiring “equally spaced” sampling for the GM and STV, removing the specification of a rolling calculation for the GM, and allowing Regional Water Boards to establish site-specific averaging periods and compliance determinations.

**28.06**

**COMMENT 3 – ACKNOWLEDGE THE RISK BASIS FOR THE BACTERIA PROVISIONS.**

The Partnership requests that the State Water Board include a more detailed description of the risk level that is the basis for the Bacteria Provisions. The only mention of risk level in the

Ms. Jeanine Townsend  
RE: Bacteria Provisions  
August 16, 2017

Bacteria Provisions occurs in the header of the table presenting the WQOs. The proposed objectives do not acknowledge that the USEPA 2012 Criteria are standards based on an allowable risk level, derived from epidemiological studies. This risk level is the basis for the objective, and the *E. coli* objectives are the tool to implement the risk-based objective. Since the risk level is the driving mechanism to protect human health, it should be clearly described in both the Bacteria Provisions and Staff Report.

The USEPA has a long record of establishing recreational criteria based on risk levels. The USEPA published recommended recreational water quality criteria in 1986 that establish the ambient condition of a recreational waterbody necessary to protect the designated use of primary contact recreation<sup>1</sup>. Criteria values were selected for *E. coli* and enterococci in order to carry forward the same level of public health protection that were believed to be associated with the USEPA's previous criteria recommendations<sup>2</sup> based on fecal coliform. The USEPA carried forward this risk-based approach in its 2012 Criteria development. Elevated levels of indicator bacteria were linked to increased risk of gastrointestinal illness through epidemiological studies conducted by USEPA during the National Epidemiological and Environmental Assessment of Recreational Water (NEEAR)<sup>3</sup> and the 2012 Criteria were established to carry forward the risk-based approach to setting recreational criteria based on indicator bacteria levels.

The ultimate goal of recreational water quality improvement programs is to reduce risk of illness to recreators, as opposed to being solely focused on reducing densities of fecal indicator bacteria. As such, incorporating a discussion of the risk-basis for the Bacteria Provisions will allow them to be adaptable to the evolving science in the event that a better indicator becomes available. It will also ensure a clear understanding that the risk-level established in the provisions is protective of human health.

28.07

#### **COMMENT 4 – ALLOW INDICATORS IN ADDITION TO *E. COLI* AND ENTEROCOCCI THAT MAY BETTER CHARACTERIZE RISK.**

The focus on numeric objectives for culturable *E. coli* and enterococci, rather than on the appropriate risk level, does not allow for other pathogen indicators or analytical methods that may better characterize risk. The Bacteria Provisions recommend USEPA Methods 1603 and 1600 or other equivalent method to measure culturable *E. coli* and enterococci, respectively. This language may be interpreted as precluding the use of new methods to measure *E. coli* and enterococci that are not culture based, or if newly developed rapid indicators could be used.

<sup>1</sup> USEPA. 1986. EPA's Ambient Water Quality Criteria for Bacteria – 1986. U.S. Environmental Protection Agency: Washington, DC. EPA440/5-84-002.

<sup>2</sup> USEPA. 1976. Quality Criteria for Water. U.S. Environmental Protection Agency: Washington, DC.

<sup>3</sup> USEPA, 2010a. Report on 2009 National Epidemiologic and Environmental Assessment of Recreational Water Epidemiology Studies. United States Environmental Protection Agency, Office of Research and Development. (EPA Report Number EPA-600-R-10-168, 2009).

USEPA, 2010b. Quantitative Microbial Risk Assessment to Estimate Illness in Fresh water Impacted by Agricultural Animal Sources of Fecal Contamination. United States Environmental Protection Agency. EPA 822-R-10-005.

Ms. Jeanine Townsend  
RE: Bacteria Provisions  
August 16, 2017

Rapid indicators to measure the presence of pathogens outside of a lab culture continue to be an active area of research.

In addition, if an alternative indicator (e.g., coliphage) is developed and approved, the current Bacteria Provisions language could be problematic, assuming that the use of those methods is interpreted as a requirement. The Partnership recommends that the text in the Bacteria Provisions specifying preferred methods be rewritten to be adaptable to future scientific developments such as improved measurements of *E. coli* and enterococci, as well as alternative indicators that better characterize human health risk.

28.08

#### **COMMENT 5 – SPECIFY HOW SITE-SPECIFIC EVALUATIONS COULD BE FACILITATED THROUGH THE BACTERIA PROVISIONS**

The proposed bacteria provisions include a consideration for Water Quality Standards Variances, which may be a mechanism for site specific evaluations for mixing zones, fate and transport, duration of impacts, among other factors, but the Bacteria Provisions do not specifically include those considerations. The Partnership requests that the State Water Board staff provide language within the Bacteria Provisions that acknowledge that these are factors which may be considered with a Water Quality Standards Variance. As discussed in Comment 1, this is an additional area where guidance from the State Water Board would be useful in promoting consistency among Regional Water Boards in implementing the Bacteria Provisions.

28.09

#### **COMMENT 6 – CONSIDER THE ACHIEVABILITY OF WATER QUALITY CONDITIONS WITHIN THE CALIFORNIA WATER CODE SECTION 13241 ANALYSIS.**

Under the California Water Code (Section 13241), the State Water Board and Regional Water Boards are required to consider a number of factors when adopting water quality objectives (WQOs). In establishing WQOs, the following factors (and others) shall all be considered:

- The ability to reasonably achieve water quality conditions through coordinated control of all factors which affect water quality in the area; and
- Economic considerations.

The Staff Report needs to include appropriate information to satisfy the required Section 13241 analysis. The current language of the Bacteria Provisions included in the Staff Report does not indicate the water quality conditions that could reasonably be attained through coordinated control of all factors affecting water quality. The Staff Report simply states that “The proposed water quality objectives for bacteria and implementation provisions can be implemented through NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act, water quality certifications issued pursuant to section 401 of the Clean Water Act, WDRs, waivers of WDRs, and TMDLs.” This is a statement describing the regulatory mechanisms to enforce water quality objectives not an analysis that fulfills the Section 13241 requirement.

Ms. Jeanine Townsend  
RE: Bacteria Provisions  
August 16, 2017

There are many sources of bacteria to receiving waters, including natural, background sources in addition to stormwater. The controllability of these background sources must also be considered in order for the State Water Board to evaluate whether or not the proposed WQOs can "reasonably be obtained", per Section 13241. In addition, the economic analysis must consider whether control measures and associated costs are reasonable in terms of achieving the desired water quality conditions as reflected in the proposed WQOs.

In closing, the Partnership appreciates the opportunity to comment on the Bacteria Provisions, and we hope that our comments will assist you in development of the statewide bacteria objectives and implementation provisions.

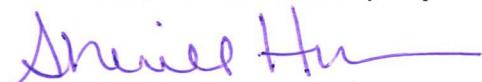
If you have any questions or anything you would like to discuss, please contact Dana Booth of Sacramento County Department of Water Resources at 916-874-4389 or Sherill Huun of the City of Sacramento at 916-808-1455.

Sincerely,

(On behalf of the Sacramento Stormwater Quality Partnership)



Dana Booth, Sacramento County Department of Water Resources



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