Public Comment
Statewide Bacteria Objectives- Scoping
Deadline: 2/20/15 by 12:00 noon

CASQA
California Stormwater Quality Association®
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February 20, 2015

Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board

RECEIVED
2-20-15
SWRCB Clerk

Subject: Comment Letter – Statewide Bacteria Objectives – Scoping Comments

Dear Ms. Townsend:

The California Stormwater Quality Association (CASQA) would like to take this opportunity to provide comments regarding the Informational Document for the Public Scoping Meeting for Proposed Statewide Water Contact Recreation Bacteria Objectives Amendments to Water Quality Control Plans for Inland Surface Waters, Enclosed Bays and Estuaries and the Ocean Waters of California (Scoping Document). The objectives, once finalized, will be water quality standards applicable to state surface waters and will be used generally by Regional Water Quality Control Boards in setting bacterial indicator requirements in waste discharge requirements, National Pollutant Discharge Elimination System (NPDES) permits, and in determining if water bodies are impaired.

CASQA is a nonprofit corporation with approximately 2,000 members throughout California, including hundreds of local public agencies. Almost 300 CASQA members hold MS4 permits issued under State and Federal law (NPDES permits and waste discharge requirements), and such permits included relevant requirements with respect to adopted water quality standards.

CASQA strongly supports the State Water Board's much-needed effort to provide consistency statewide with respect to bacteria objectives that reflect the latest epidemiologic data and consider the realities of implementing control measures to address bacteria, particularly for stormwater agencies. CASQA generally supports the proposed approach as set forth in the Scoping Document for application of bacteria objectives to the State's surface waters. For certain elements, CASQA requests additional clarifications and items for consideration. The remainder of this letter discusses our requested changes.

CASQA supports the State Water Board's recommended indicator organisms of *E. coli* (freshwater) and enterococcus (marine water), and requests that the Scoping Document clarify that the intent of the proposed amendments is to establish statewide bacteria Water Quality Objectives that are to be applied as appropriate in programs implemented under the Clean Water Act and/or Porter Cologne Act [Element 1].

First, CASQA supports the recommendations to utilize only *E. coli* as the indicator organism for fresh waters and use of enterococci as the sole indicator for use in marine waters. The use of such indicators is consistent with the U.S Environmental Protection Agency (USEPA) 2012 Recreational

Water Quality Criteria (RWQC), and such indicators are more appropriate than the current indicators being used (i.e., Total and Fecal coliform).

Second, with respect to the application of statewide bacteria objectives in general, CASQA recommends additional clarification be added to the Scoping Document regarding the application of newly proposed statewide objectives, and their replacement of existing bacteria objectives contained in regional water quality control plans. Specifically, where bacteria water quality objectives are used in State and Regional Water Board water quality regulatory actions (e.g., determinations of impairment, total maximum daily loads (TMDLs), and receiving water limitations), Element 1 should be modified to clearly indicate that once statewide bacteria objectives are adopted, such objectives would replace any other bacteria objectives or standards that might otherwise be used by the State or Regional Water Boards in their water quality programs.

For example, as discussed in the Scoping Document, the Ocean Plan and Basin Plans have marine bacteriological standards consistent with the California Department of Public Health (CDPH) standards. These CDPH standards are not consistent with USEPA's 2012 RWQC. The CDPH standards are based on studies conducted during the 1940s and 1950s that associated total coliform levels to illness following contact recreation. A multiplier was then used to convert the total coliform standard to a fecal coliform standard. The USEPA 1986 Ambient Water Quality Criteria for bacteria reviewed the studies using total coliform and found them to be technically deficient. The 1986 Criteria included correlation coefficients for swimming-associated illness and various fecal indicators at marine beaches, and presented a correlation coefficient of 0.96 for enterococci, and only 0.65 for total coliform and 0.51 for fecal coliform, showing that enterococci is a much stronger indicator than total or fecal coliform. Consequently, the USEPA 1986 Criteria and 2012 RWQC are based solely on enterococci for marine waters. The CDPH standards are based on outdated studies that are not supported by the USEPA. Thus, it is important that Element 1 be revised to ensure that the State Water Board's Scoping Document review include consideration of the fact that bacteria standards adopted here would be the only appropriate standards for use in State and Regional Water Boards regulatory actions. Without such a clarification Regional Boards may retain the use of the existing standards.

While the Scoping Document recommends changing the Ocean Plan and Basin Plan objectives to be consistent with the USEPA 2012 RWQC, it also notes that the CDPH standards will remain in place for public health agency public notification requirements. CASQA requests that clarity be provided that once the new marine bacteria objectives become effective, the CDPH standards will no longer be applicable for State and Regional Water Boards water quality regulatory actions that are associated with implementation of such standards.

CASQA encourages the State Water Board to identify in its Scoping Document establishment of the actual statewide bacteria objectives as an illness rate/risk level, which includes allowing for site-specific interpretations of the illness rate/risk level to support implementation [Element 2].

The USEPA 2012 RWQC were developed based on epidemiology studies that linked the health risk associated with recreational water use to concentrations of indicator bacteria. USEPA

identified acceptable estimated illness rates protective of REC-1 uses. These illness rates were then associated with specific indicator bacteria concentrations, based on the epidemiologic study results. Because the risk levels were the driver for selecting appropriate indicator levels, CASQA requests that the State Water Board consider as part of its Scoping Process of setting the risk level as the actual water quality objective to protect REC-1 beneficial uses in place of the proposed bacteria concentrations. Use of a risk-based approach would allow for site-specific studies to select appropriate site-specific approaches and corresponding actions, and/or site-specific indicator concentrations protective of public health. This would allow a more streamlined application of site-specific risk analysis, such as quantitative microbial risk assessment (QMRA) to support different indicator bacteria levels that demonstrate the same risk level. With this approach, where there is not sufficient information (or it is not developed) to support alternative numeric indicator bacteria interpretations of the risk level, the proposed USEPA's 2012 RWQC based indicator bacteria values would still apply.

CASQA requests that the State Water Board as part of its Scoping Process further evaluate the selection of appropriate risk level across waterbodies with varying recreational use [Element 2].

CASQA recommends the State Water Board evaluate as part of its Scoping Process the fact that waterbodies throughout California have varying levels of recreational use, and that it is not necessary to protect all waterbodies at the 32 per 1,000 illness rate. The USEPA RWQC recognize that both sets of criteria are protective of primary contact recreation, and it allows states to make risk management based decisions on which set of criteria values are appropriate for adoption as state water quality standards. While there is very little practical difference between the criteria associated with the two risk levels, the small difference between the two levels could create instances where a waterbody is compliant with the higher risk level, but not the lower level, yet there is no significant increase to public health risk. Such a scenario could trigger the need for additional controls on bacteria that are unnecessary from a public health perspective. Accordingly, CASQA requests that the State Water Board provide further evaluation of the appropriate risk levels for waterbodies with different levels of recreational use, and consider applying the criteria associated with the 36 in 1,000 illness rate to waterbodies with less frequent or infrequent recreational use.

A reference system/antidegradation and natural source exclusion approach is appropriate in all cases when applying bacteria objectives [Element 3].

CASQA supports the State Water Board's recommendation to allow the use of reference system/antidegradation approach (RSAA) or natural sources exclusion approaches (NSEA) when applying bacteria objectives. Such an approach will ensure that focus remains on bacteria reduction efforts for anthropogenic sources. Currently, the Scoping Document is not clear on whether the RSAA or NSEA approaches would apply only during TMDL development and implementation, or would be available in any instance where bacteria objectives are being applied. The use of the RSAA/NSEA should not be limited to use within the context of a TMDL, and should be acceptable for use in all cases where bacteria objectives are applicable to waterbodies, including in watershed planning and other water quality implementation efforts.

In addition, the Scoping Document should indicate the State Water Board will further consider application of the NSEA approach across common scenarios. For instance, it is anticipated that the USEPA's QMRA Technical Support Manual in support of the 2012 RWQC will include site-specific criteria for beaches and inland areas where there are no human sources and where birds are a predominant source, based on USEPA's QMRA calculations. The State Water Board's approach should allow for application of USEPA's site-specific criteria to beaches and inland areas that have similar characteristics, and where a sanitary characterization and other data could provide sufficient justification for applying those site-specific criteria. Further, the State Water Board should also provide for a streamlined process for using a NSEA for waterbodies with similar predominant influences (i.e., birds) that could be applied across many similar cases, in lieu of a QMRA.

CASQA supports State Water Board's Scoping Document consideration of allowing the suspension of recreational objectives in engineered and non-engineered channels during high flow events [Element 4].

The Scoping Document includes as a recommended option the suspension of recreational objectives in engineered and non-engineered channels during high flow events because such conditions are unsafe for recreation, regardless of the channel type. CASQA supports this option. Implementation of a high flow suspension (HFS) of bacteria objectives will allow resources to be focused on actions that protect beneficial uses during conditions that might support recreation and avoid the potentially significant costs associated with meeting such objectives in engineered and non-engineered channels during high flow events. With respect to the Scoping Document, more clarity is needed from the State Water Board in how HFS will be applied. Further, CASQA recommends that application of HFS be a streamlined process based on simple metrics, such as rainfall amounts. Also, in setting the threshold for HFS, the State Water Board should consider that, depending on the individual channel conditions, REC-1 use can be unsafe even at relatively low rainfall amounts (e.g., 0.5 inch).

CASQA encourages the State Water Board to consider Option No. 2 for Element 7 [Element 7].

To ensure that mixing zones are a regulatory option in all regions with respect to meeting bacteria objectives, CASQA encourages the State Water Board to consider Option No.2. Mixing zones are a legal and viable option under both State and Federal law, and thus should be specifically acknowledged as an option for all dischargers that might otherwise be subject to specific discharge limitations.

CASQA recommends the State Water Board specify an averaging period that reflects a recreational season or subseason, which may vary by region [Element 8].

As USEPA's 2012 RWQC were developed using epidemiologic data collected over summer recreational seasons, CASQA supports an averaging period that reflects seasonal recreational use. In California, the recreational season lasts longer than 30 days, and recreational intensity varies between seasons. California Assembly Bill 411 (AB411) establishes two annual seasons in California – the AB411 dry season (April through October) and the AB411 wet season

(November through March). In California, seasons could be further divided into dry subseasons to differentiate months that have some rainfall (April-May and October) and months that rarely experience rainfall (June-August). Each of these seasonal periods are defined by distinct patterns of recreational use, and therefore could be appropriate for using as separate durations for calculation of a geometric mean and USEPA statistical threshold value (STV) to evaluate whether data is protective of recreational uses. At a minimum, staff should set a time period that is reasonable and does not unnecessarily burden agencies to collect sufficient samples to calculate a geometric mean and STV. CASQA recommends that staff set a time period of at least three months or 90 days.

CASQA supports the State Water Board's recommendation to allow seasonal suspension and Limited REC-1, but requests that the State Water Board clarify language about when a Use Attainability Analysis (UAA) is appropriate [Element 11].

The Scoping Documents option for allowing seasonal suspension, variances and Limited REC-1 (LREC-1) beneficial use designation is appropriate because some waterbodies in California are not supportive of recreation year-round due to physical limitations on access or water depths that are not conducive to water contact recreation. However, the discussion under Element 11 implies that a UAA would be required for seasonal suspensions or designation of LREC-1. We request that the language under this element be clarified to note that while a UAA might be required in some circumstances, other mechanisms, such as implementation procedures for the objectives, could also be utilized.

For example, because the proposed bacteria objectives would apply specifically to contact recreational uses where ingestion is reasonably possible, options should exist to modify application of the objectives in situations where contact recreation and ingestion is *not* reasonably possible. Similar to high flow suspension of objectives, the objectives should not apply when water is present but ingestion of water is not reasonably possible. Such a suspension may be more appropriate than removing a use or replacing REC-1 objectives with LREC-1, and would not require the removal of the use and a corresponding UAA.

CASQA recommends that State Water Board staff revise the language in Element 11 to clarify that suspension of objectives may not require a UAA, and specifically discuss the option of considering implementation provisions where physical conditions such as low flows preclude contact recreational uses because ingestion is not reasonably anticipated.

CASQA recommends inclusion of an additional element to evaluate the REC-2 objectives.

While we understand the scope of the proposed objectives is focused on the REC-1 beneficial use, the basis for and application of the REC-2 objectives should be considered as part of the bacteria objective development. As noted in the recently adopted revisions to the recreational bacteria objectives in Santa Ana Regional Water Board's Basin Plan, there is no scientific basis to establish indicator bacteria objectives intended to protect human health as a result of non-contact recreational uses (REC-2). As a result, the REC-2 objectives in the Basin Plan were removed and replaced by antidegradation targets in waters with only REC-2 beneficial uses. As one of the stated intents of the Scoping Document and establishment of statewide bacteria

objectives is to provide implementation consistency, CASQA supports the approach utilized in the Santa Ana Region and requests inclusion of this option as a new element in the Scoping Document.

CASQA recommends inclusion of an additional element to allow the development of site-specific objectives using Quantitative Microbial Risk Assessment (QMRA).

USEPA used a risk-based approach to set recreational criteria in its RWQC, and included tools that can be used by states to develop site-specific alternative water quality criteria that are scientifically defensible and protective of recreational use. USEPA is developing technical guidance for developing site-specific criteria using QMRA in its document "Site-Specific Alternative Recreational Criteria Technical Support Materials for Predominantly Non-Human Fecal Sources." The document describes the process to conduct a sanitary characterization and QMRA, and provide QMRA from several conservative scenarios (with predominant sources being birds (gulls or chicken), pigs, or other non-pathogenic sources). USEPA also provides the option for entities to conduct their own QMRA for other non-human fecal sources and other site-specific parameters. Accordingly, it is appropriate for the State Water Board to acknowledge that USEPA is developing information to facilitate the use of site-specific criteria, and for the State Water Board to include an additional element to specifically allow for development of site-specific criteria using QMRA.

In closing, CASQA restates it strong support for this overall effort, and we encourage its timely completion. We appreciate the opportunity to comment on the Scoping Document and we hope that our comments will assist you in development of the bacteria objectives. Please contact CASQA Executive Director Geoff Brosseau at (650) 365-8620 if you have any questions or would like to discuss our comments further.

Sincerely,

Gerhardt Hubner, Chair
California Stormwater Quality Association

cc: CASQA Board of Directors, Executive Program Committee, and Policy & Permitting Subcommittee