CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION
Colorado River Basin Region Webpage

NON-REGULATORY AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE COLORADO RIVER BASIN REGION TO UPDATE BACTERIA WATER QUALITY OBJECTIVES FOR WATERS DESIGNATED FOR WATER CONTACT RECREATION

Staff Report

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Executive Summary

Staff of the California Regional Water Quality Control Board, Colorado River Basin Region (Colorado River Basin Water Board) prepared this Staff Report to support a proposed non-regulatory amendment to the Water Quality Control Plan for the Colorado River Basin Region (Basin Plan). The proposed amendment is in response to the State Water Resources Control Board's (State Water Board) adoption of new statewide bacteria objectives for coastal and non-coastal waters designated for water contact recreation (REC I). These numeric objectives are already effective statewide and supersede the objectives currently listed in the Basin Plan, except for site specific objectives and narrative water quality objectives. The updated objectives are based on the United States Environmental Protection Agency's (USEPA) 2012 recommended Clean Water Act section 304(a) criteria for bacteria, and they are more protective of human health based on a risk protection level of 32 illnesses per 1,000 recreators. Staff proposes to amend the Basin Plan to reflect the new bacteria objectives established by the State Water Board, which will keep the Basin Plan current and improve clarity for all users. The amendment will update the numeric bacteria water quality objectives for REC I in the Colorado River Basin Region's Basin Plan, as well as make other administrative, non-regulatory changes, including adding a new beneficial use of limited contact recreation (LREC I) and moving the location of site-specific bacteria objectives for the Colorado River to a different section of the Basin Plan.

This is a non-regulatory update of the Basin Plan to incorporate administrative changes reflecting water quality objectives already adopted by the State Water Board and approved by USEPA. This proposed amendment must be reviewed and approved by the Colorado River Basin Water Board and State Water Board.

1. Introduction

Staff of the California Regional Water Quality Control Board, Colorado River Basin Region (Colorado River Basin Water Board) prepared this Staff Report to support a proposed non-regulatory amendment (Amendment) to the Water Quality Control Plan for the Colorado River Basin Region (Basin Plan). The Amendment updates bacteria objectives in the region's Basin Plan for waters designated for water contact recreation (REC I) to reflect new, statewide bacteria objectives adopted by the State Water Resources Control Board (State Water Board) on August 8, 2018, Resolution 2018-0038, *Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Bacteria Provisions and a Water Quality Standards Variance Policy and an Amendment to the Water Quality Control Plan for Ocean Waters of California – Bacteria Provisions and a Water Quality Standards Variance Policy* (Bacteria Provisions Amendment). The new bacteria objectives became effective statewide on March 22, 2019 following approval of the Bacteria Provisions Amendment by the United States Environmental Protection Agency (USEPA), and the Office of Administrative Law also approved them on February 4, 2019.

The new, statewide bacteria water quality objectives for REC I in surface waters are based on USEPA's 2012 recreational water quality criteria recommendations found in Clean Water Act section 304(a). For inland surface waters, bays, and estuaries, the objectives designate bacterial indicators for fresh water (salinity is equal to or less than 1 part per thousand [ppth] 95 percent or more of the time during the calendar year) and saltwater (salinity is greater than 1 ppth more than 5 percent of the time during the calendar year) as *Escherichia coli* (*E. coli*) and enterococci, respectively. The updated objectives are more protective of human health and based on a risk protection level of 32 illnesses per 1,000 recreators.

The Amendment revises the Basin Plan to reflect the new, statewide bacteria objectives in effect for waters designated for REC I, but does not change narrative water quality objectives or site specific objectives already in place. This Staff Report describes the proposed administrative, non-regulatory changes to numeric bacteria objectives listed in the Colorado River Basin Region's Basin Plan. The goal of the Amendment is to update outdated objectives in the Basin Plan, and therefore improve clarity and avoid confusion as to which REC I numeric objectives for bacteria apply to surface waters in the Colorado River Basin Region. Additionally, the Amendment moves the site-specific objectives for bacteria in the Colorado River to a different section of the Basin Plan and defines a new limited contact recreation (LREC I) beneficial use.

2. Bacteria Basin Planning Actions

The Basin Plan is the central document outlining the Colorado River Basin Water Board's plan for preserving and enhancing water quality in the region for the protection of beneficial uses for present and future generations. The Basin Plan contains the region's beneficial uses for groundwaters and surface waters, water quality objectives for protection of those beneficial uses, and implementation programs to achieve the water quality objectives. The Basin Plan fulfills state and federal regulatory requirements for water quality planning under the Clean Water Act (33 U.S.C. § 1251 et

seq.) and the Porter Cologne Water Quality Control Act (Water Code, § 13000 et seq.) and their implementing regulations. However, the State Water Board has the right to adopt statewide water quality objectives that may supersede those listed in the Colorado River Basin Region's Basin Plan. (See Wat. Code, § 13170.)

2.1 History of Bacteria Objectives in the Basin Plan

Chapter 3 of the Basin Plan contains water quality objectives for surface waters and groundwaters in the Colorado River Basin Region. Section II.I of Chapter 3 contains general water quality objectives for bacteria in surface waters designated with the REC I or non-contact water recreation (REC II) beneficial uses, which are reproduced in Appendix A of this Staff Report. The same section of the Basin Plan also contains site-specific objectives for bacteria for the Colorado River. Additionally, separate sections of the Basin Plan contain site-specific objectives for bacteria in the New River (Chapter 3, Section III.B) and the Coachella Valley Stormwater Channel (Chapter 3, Section III.E).

The REC I beneficial use is defined as uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, and use of natural hot springs. Fecal indicator bacteria concentrations are used to determine whether the beneficial use of REC I is potentially impacted, based on the risk of illnesses resulting from recreating in waters contaminated by fecal pollution.

The general objectives for REC I and REC II waters currently listed in the Basin Plan were adapted from the USEPA's *Quality Criteria for Water, 1986*, which recommended objectives for freshwater and marine water bathing. Studies were initiated in 1972 by USEPA to determine the human health risk for bathing in sewage-contaminated waters and which bacteria indicator would be best for predicting gastrointestinal illness. USEPA determined that for an estimated 8 illnesses per 1,000 swimmers in freshwater and 19 illnesses out of 1,000 swimmers in marine waters, a fecal coliform indicator group maximum geometric mean of 200 most probable number (MPN) per 100 milliliters (mL) was acceptable (USEPA, 1986). Using that illness rate, enterococci and *E. coli* were chosen as the best bacterial indicators for human health in freshwater and enterococci in marine waters.

The bacteria objectives for REC I currently listed in the Basin Plan are based on a statistically significant geometric mean for *E. coli* of 126 MPN/100 mL and 33 MPN/100 mL for enterococci. Maximum allowables are 400 MPN/100 mL for *E. coli* and 100 MPN/100 mL for enterococci. Fecal coliform has a geometric mean and maximum allowable set at 200 MPN/100 mL and no more than ten percent of total samples in a 30-day period exceed 400 MPN/100 mL. The site-specific bacteria objectives for the Colorado River has maximum allowables of 235 MPN/100 mL for *E. coli* and 61 MPN/100 mL for enterococci (Colorado River Basin Water Board, 2019).

2.3 Statewide Bacteria Provisions Amendment

In August 2018, the State Water Board adopted the Bacteria Provisions Amendment, establishing new, statewide bacteria water quality objectives for the protection of water contact recreation (REC I) in fresh and saline waters as: (1) Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays and Estuaries of California (ISWEBE Plan), and (2) an amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan). These documents can be found, along with the accompanying Staff Report, on the State Water Board's website for Bacterial Objectives.

The Bacteria Provisions Amendment establishes statewide bacteria water quality objectives based on USEPA's 2012 recreational water quality criteria recommendations found in Clean Water Act section 304(a). USEPA recommends bacteria indicators at two different risk levels that USEPA indicated as equally protective for recreational activities – 32 illnesses per 1000 recreators and 36 illnesses per 1000 recreators. The statewide bacteria water quality objectives are based on the more conservative risk protection level of 32 illnesses per 1000 recreators. Consistent with USEPA's 2012 recreational water quality criteria recommendations, the State Water Board chose *E. coli* as the sole indicator of pathogens in freshwater and enterococci as the sole indicator for saline inland surface waters, enclosed bays, and estuaries. It also chose enterococci as one of the indicators in ocean waters.[1]

Additionally, the Bacteria Provisions Amendment contains several implementation provisions, including (1) the identification of approaches for characterizing natural sources of bacteria within the context of a Total Maximum Daily Load (TMDL) or other Basin Plan amendment – either a natural source exclusion approach or a reference system/antidegradation approach, and (2) the temporary suspension of the REC I beneficial use in inland surface waters, enclosed bays, and estuaries during specific conditions such as conditions of high flows, low water temperatures or freezing, and low flows. These implementation provisions are not specific requirements to implement the bacteria water quality objectives, but rather options the regional water boards may utilize to implement the bacteria water quality objectives or to reflect whether the REC I beneficial use is appropriately designated.

The statewide provisions also define a new beneficial use, Limited Water Contact Recreation (LREC I), as follows:

> *Limited Water Contact Recreation (LREC-1): Uses of water that support limited recreational activities involving body contact with water, where the activities are predominantly limited by physical conditions and, as a result, body contact with water and ingestion of water is infrequent or insignificant.*

[1] The State Water Board retained fecal coliform objectives from the Ocean Plan not based on USEPA's 2012 criteria, since epidemiological studies conducted at southern California beaches between 2012 and 2017 provided data suggesting fecal coliform may be a better indicator of gastrointestinal illness than enterococci during certain types of exposures and environmental conditions.

Designation of the limited water contact recreation (LREC I) beneficial use requires that a use attainability analysis be performed finding that body contact is limited in the water body due to physical conditions, such as restricted access and very low water depths. The designation of the LREC I beneficial use could include the development of site-specific bacteria objectives.

Finally, the Bacteria Provisions Amendment refers to the federal regulatory mechanism for adopting a water quality standards variance to provide clear information on the application of a variance to all pollutants and water segments consistent with 40 Code of Federal Regulations section 131.14. Any variance must adhere to applicable state and federal regulations and be approved by USEPA.

The Bacteria Provisions Amendment became effective upon adoption by the State Water Board and approval by the Office of Administrative Law and USEPA. The water quality objectives supersede all existing numeric bacteria objectives to the extent a conflict exists; the State Water Board expressly specified that the objectives do not supersede narrative bacteria objectives or site-specific bacteria water quality objectives. The Colorado River Basin Water Board must implement the new bacteria water quality objectives, where applicable, through permits, water quality certifications, waste discharge requirements (WDRs), waivers of WDRs, and future TMDLs.

The Amendment updates the Colorado River Basin Region's Basin Plan to reflect changes already in effect from the State Water Board's rulemaking action.

3. Proposed Changes to the Basin Plan

As detailed below, the Amendment makes administrative, non-regulatory changes to several sections of Chapter 3 of the Basin Plan, reflecting updates from the State Water Board's adoption of the Bacteria Provisions Amendment.

3.1 Changes to Numeric Water Quality Objectives

Chapter 3, Section II.I of the Basin Plan contains general surface water quality objectives for bacteria for REC I and REC II waters in the Colorado River Basin Region. Several changes to the REC I objectives are necessary to accurately reflect the new statewide objectives put in place by the Bacteria Provisions Amendment.

First, there will be a change from objectives expressed as single sample limits (SSLs) to statistical threshold values (STVs). The Basin Plan currently contains bacteria water quality objectives expressed as SSLs, consistent with USEPA's 1986 recommended water quality criteria for bacteria. The statewide Bacteria Provisions Amendment requires a change from SSLs to STVs for *E. coli* and enterococci, consistent with EPA's 2012 recommended recreational water quality criteria. The change from a single sample maximum to statistical threshold value occurred because treating the single sample maximum as a never-to-be-exceeded value imparts a level of protection more stringent than intended by USEPA's 1986 recommended criteria. The STV is set at a 90th percentile value of the geometric mean, which can be exceeded just 10 percent of the time.

Second, there will be a change in the calculation of the geometric mean values. Currently, the Basin Plan provides geometric mean values be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period). The statewide Bacteria Provisions Amendment requires use of a six-week rolling geometric mean calculated weekly for use in all instances (e.g., not limited to TMDL compliance).

Third, there will be a change in the numeric limits for *E. coli* and enterococci for fresh and saline surface waters. The numeric values of *E. coli* and enterococci bacteria water quality objectives will change to reflect those required by the statewide Bacteria Provisions Amendment. The geomean values for both indicators in the statewide provisions reflect the use of the illness rate of 32 per 1,000 recreators, as opposed to 36 per 1,000 recreators. The corresponding STV numeric values are also based on the lower illness rate.

Proposed changes to the language in Chapter 3, Section II.I of the Basin Plan are detailed below. The revisions match the language from the Bacteria Provisions Amendment adopted by the State Water Board. Changes to the affected section entitled "Bacteria" will update objectives for REC I, clarify bacteria objectives for REC II, and remove fecal coliform objectives for REC I. Proposed changes to the Basin Plan language are as follows:

I. BACTERIA
In waters designated for water contact recreation (REC I) or non-contact water recreation (REC II), the following bacterial objectives apply.

1. REC I

For all waters where the salinity is equal to or less than 1 part per thousand (ppth) 95 percent or more of the time during the calendar year, the bacteria objective is:

A six-week rolling geometric mean of *Escherichia coli* (*E. coli*) not to exceed 100 colony forming units (cfu) per 100 milliliters (mL), calculated weekly and a statistical threshold value (STV) of 320 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

For all waters where the salinity is greater than 1 ppth more than 5 percent of the time during the calendar year, the bacteria objective is:

A six-week rolling geometric mean of enterococci not to exceed 30 cfu/100 mL calculated weekly, with an STV of 110 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

Table 3-1: REC I Bacteria Objectives

Applicable Waters	Indicator	GM[2] (cfu/100 mL[3])	STV[4] (cfu/100 mL)
All waters where salinity is equal to or less than 1 ppth 95 percent or more of the time	*E. coli*	100	320
All waters where salinity is greater than 1 ppth more than 5 percent of the time	Enterococcus	30	110

2. REC II

Based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period), the geometric mean of the indicated bacterial densities shall not exceed one or the other of the following: *E. coli* of 630 MPN/100 mL or enterococci of 165 MPN/100 mL.

No sample shall exceed the following maximum allowables: *E. coli* of 2000 MPN/100 mL or enterococci of 500 MPN/100 mL.

Table 3-2: REC II Bacteria Objectives

Indicator	GM[5] (MPN/100 mL[6])	Maximum Allowable (MPN/100 mL)
E. coli	630	2000
Enterococcus	165	500

Additionally, the Amendment moves the location of the site-specific objectives for bacteria in the Colorado River to a new section of the Basin Plan, but otherwise leaves the objectives unchanged. Staff proposes moving the objectives from Chapter 3, Section II.I of the Basin Plan, which governs "General Surface Water Objectives" for "Bacteria," to Chapter 3, Section III.A, which has "Specific Surface Water Objectives" for

[2] GM = geometric mean, a six-week rolling geometric mean calculated weekly

[3] cfu/100 mL= Colony forming units per 100 milliliters

[4] STV = statistical threshold value, not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner

[5] GM = geometric mean, based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period)

[6] MPN/100 mL= Most probable number per 100 milliliters

the “Colorado River.” Specifically, the Amendment would add a new subpart 3 to Section III.A. Proposed changes to the Basin Plan language are as follows:

3. Bacteria

The bacterial objectives identified in the General Surface Water Objectives section of this Basin Plan (Chapter 3, Section II.I) apply to the Colorado River. Additionally, the following site-specific bacterial objectives also apply to the Colorado River:

For water contact recreation (REC I), no sample shall exceed the following maximum allowables: *Escherichia coli* (*E. coli*) of 235 most probable number (MPN) per 100 milliliters (mL) or enterococci of 61 MPN/100 mL.

For non-water contact recreation (REC II), no sample shall exceed the following maximum allowables: *E. coli* of 1175 MPN/100 mL or enterococci of 305 MPN/100 mL.

Colorado River Site-Specific Bacteria Objectives

Beneficial Use	*E. coli* (MPN/100 mL)	Enterococcus (MPN/100 mL)
REC I	235	61
REC II	1175	305

3.2 Changes to Beneficial Uses

The Amendment proposes adding the new beneficial use definition for limited contact water recreation (LREC I) to the list of beneficial uses of water in Table 2-1 of the Basin Plan, as follows:

TABLE 2-1: DEFINITIONS OF THE BENEFICIAL USES OF WATER

	CATEGORY	DEFINITION
LREC I	Limited Water Contact Recreation	Uses of water that support limited recreational activities involving body contact with water, where the activities are predominantly limited by physical conditions and, as a result, body contact with water and ingestion of water is infrequent or insignificant.

No designations of LREC I beneficial use are proposed at this time, as this would require a separate use attainability analysis and the potential development of site-specific objectives. The addition of the LREC I beneficial use definition is, however, intended for potential future use by the Colorado River Basin Water Board through a separate basin planning action.

4. Changes Not Made to the Basin Plan

There are several aspects of the Bacteria Provisions Amendment that do not require changes to the Basin Plan at this time but may require changes in the future. These are described below.

4.1 Implementation Provisions

The implementation provisions contained in the statewide Bacteria Provisions Amendment are not specific requirements to implement the bacteria water quality objectives. Rather, they are implementation options that regional water boards may utilize to effectively implement the bacteria water quality objectives or to reflect whether the REC I beneficial use is appropriately designated. That is, they may be applied at the discretion of a regional water board. No changes are proposed to expressly incorporate the implementation provisions provided in the Bacteria Provisions Amendment, although they may be used by the Colorado River Basin Water Board in future basin planning actions.

4.2 Site Specific Objectives and TMDLs

The Colorado River Basin Region's Basin Plan has site-specific objectives for bacteria in the Colorado River, New River, and Coachella Valley Stormwater Channel. These site-specific objectives in the Basin Plan remain in effect until they are revised on an individual basis through a separate basin planning process.

Additionally, the Colorado River Basin Water Board has adopted and USEPA approved two bacteria TMDLs: (1) the New River Pathogen TMDL (Colorado River Basin Regional Water Quality Control Board, 2002); and (2) the Coachella Valley Stormwater Channel Bacterial Indicators TMDL (Colorado River Basin Regional Water Quality Control Board, 2007 and 2010). The Staff Report for the Bacteria Provisions Amendment states, "Bacteria TMDLs may need to be updated to be consistent with the Bacteria Provisions as time and workload allow." Any changes to TMDL wasteload allocations are outside the scope of the Amendment, and no revisions are proposed at this time but will instead be addressed on a case-by-case basis through separate basin planning actions.

4.2 Water Quality Standards Variance

The Bacteria Provisions Amendment refers to the federal regulatory mechanism for adopting a water quality standards (WQS) variance. Further regulatory action by the Colorado River Basin Water Board is not necessary to establish a WQS variance consistent with this mechanism. Therefore, no changes to the Basin Plan related to the WQS variance are proposed.

5. Other Considerations

5.1 CEQA

The Colorado River Basin Water Board's discretionary decisions are typically subject to the requirements of the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq. The Natural Resources Agency has certified the basin planning process of the State and Regional Water Boards as a "certified regulatory

program" that is exempt from CEQA, as long as the procedures identified in the program are followed. (Pub. Res. Code § 21080.5; Cal. Code Regs., tit. 14, § 15251(g); Cal. Code Regs., tit. 23, §§ 3720-3781.)

The State Water Board prepared a Substitute Environmental Document (SED) for the Bacteria Provisions Amendment in accordance with the Water Boards' certified regulatory program. The State Water Board approved the Bacteria Provisions Amendment and the accompanying SED on August 7, 2018. The proposed Amendment is wholly within the scope of the statewide Bacteria Provisions Amendment as analyzed by the State Water Board in the SED. As such, the recommended actions are non-regulatory and do not require further environmental review pursuant to the certified regulatory program or CEQA, as the Amendment will have no impact on the environment and is not a "project" under CEQA. Further, no substantive changes or modifications to the previously approved bacteria provisions are proposed, no substantial changed circumstances have occurred, and no new information has triggered the need for supplemental or subsequent CEQA analysis.

5.2 Rationale for Basin Plan Amendment

The proposed Amendment to the Basin Plan is in response to action taken by the State Water Board in developing new bacteria objectives for surface waters designated for REC I. These objectives are effective statewide and supersede the objectives currently listed in the Basin Plan. Staff is proposing to amend the Basin Plan with the new bacteria objectives to keep the Basin Plan current and to maintain clarity for all users.

5.3 Economics

Economic considerations must be examined with the adoption of new water quality objectives in accordance with Water Code section 13241. Because this non-regulatory amendment merely updates the Colorado River Basin Region's Basin Plan with the statewide objectives already adopted by the State Water Board, no additional consideration of economic factors is required. As part of the State Water Board approval process, Abt Associates prepared a report entitled, *Economic Analysis of Proposed Water Quality Objective for Pathogens in the State of California* (Abt Associates, Inc., 2017). This report was the basis of discussions concerning economic considerations for implementing the revised objectives in Chapter 10, Section 10.4 of the Staff Report for the Bacteria Provisions Amendment (State Water Board, 2018).

5.4 Scientific Peer Review

The scientific basis of any Basin Plan amendment must undergo external scientific peer review before adoption by the State or Regional Water Board. The scientific basis is the foundation of a rule that is premised upon, or derived upon, empirical data or other scientific findings, conclusions, or assumptions establishing a regulatory level, standard, or other requirement for the protection of public health or the environment. (Health & Safety Code, § 57004.) This Amendment does not trigger any requirement for additional scientific peer review, because peer review was already considered by the State Water Board when adopting the Bacteria Provisions Amendment. The State Water Board utilized existing policies and rules to form the basis of the new bacteria objectives,

which all were peer reviewed prior to implementation, as noted in Table 19 of the Staff Report for the Bacteria Provisions Amendment.

6. References

Abt Associates, Inc. 2017. Economic Analysis of Proposed Water Quality Objectives for Pathogens in the State of California. June 2017. Available at https://www.waterboards.ca.gov/bacterialobjectives/docs/economics_analysis_2017.pdf

Colorado River Basin Regional Water Quality Control Board. 2002. Pathogen Total Maximum Daily Load for the New River and Implementation Plan.

Colorado River Basin Regional Water Quality Control Board. 2007 and 2010. Total Maximum Daily Load and Implementation Plan for Bacterial Indicators Coachella Valley Stormwater Channel.

Colorado River Basin Regional Water Quality Control Board. 2019. Water Quality Control Plan for the Colorado River Basin Region.

State Water Resources Control Board. 2018. Staff Report Including Substitute Environmental Documentation for Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Bacteria Provisions and a Water Quality Standards Variance Policy and Amendment to the Water Quality Control Plan for Ocean Waters of California – Bacteria Provisions and a Water Quality Standards Variance Policy.

United States Environmental Protection Agency. 1986. Quality Criteria for Water, 1986.

Appendix A: Bacteria Objectives Currently Listed in Basin Plan

I. BACTERIA

In waters designated for water contact recreation (REC I) or noncontact water recreation (REC II), the following bacterial objectives apply. Although the objectives are expressed as fecal coliforms, E. coli, and enterococci bacteria, they address pathogenic microorganisms in general[7](e.g., bacteria, viruses, and fungi).

Based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period), the geometric mean of the indicated bacterial densities should not exceed one or the other of the following:

	REC I	REC II
E. coli	126 per 100 ml	630 per 100 ml
enterococci	33 per 100 ml	165 per 100 ml

nor shall any sample exceed the following maximum allowables:

	REC I	REC II
E. coli	400 per 100 ml	2000 per 100 ml
enterococci	100 per 100 ml	500 per 100 ml

except that for the Colorado River, the following maximum allowables shall apply:

	REC I	REC II
E. coli	235 per 100 ml	1175 per 100 ml
enterococci	61 per 100 ml	305 per 100 ml

In addition to the objectives above, in waters designated for water contact recreation (REC I), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400 MPN per 100 ml.

[7] Fecal coliforms and E. coli bacteria are being used as the indicator microorganisms in the Region until better and similarly practical tests become readily available in the region to more specifically target pathogens.