Comment Summary and Responses
Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load for Indicator Bacteria in Los Cerritos Channel and Estuary, Alamitos Bay, and Colorado Lagoon, and to Suspend the Recreational Uses in Los Cerritos Channel during Unsafe Wet Weather Conditions
Comment Due Date: January 18, 2022

No.	Commenter	Date Received
1.	Los Cerritos Channel Watershed Group; Richard Watson & Associates, Inc.	1/18/2022
2.	County of Los Angeles and Los Angeles County Flood Control District	1/18/2022
3.	Heal the Bay	1/18/2022
4.	United States Environmental Protection Agency (USEPA)	1/18/2022

No.	Commenter	Comment	Response
1.1	Los Cerritos Channel Watershed Group	The focus of these comments is the freshwater Los Cerritos Channel.	Comment noted.
1.2	Los Cerritos Channel Watershed Group	We do not understand why the staff has abandoned the long-used reference system/anti-degradation approach. The Staff Report on page 10 says that "Due to the difference in the expression of STV Objectives in the Statewide Bacteria Provisions as compared to the single sample maximum objectives in the 2001 and 2010 Bacteria Objectives, the reference system/antidegradation approach is not used." The exclusion of the reference system/ antidegradation approach virtually assures continued non-compliance because of the significant contribution of natural sources of fecal indicator bacteria.	The reference system/antidegradation approach is incompatible with the statistical threshold value (STV) objectives contained in the Statewide Bacteria Provisions based on an analysis of data in the Los Angeles Region. See the attachment to these responses to comments for the analysis of data.

1.3	Los Cerritos Channel Watershed Group	Exclusion of the reference system approach is also inconsistent with the Statewide Bacteria Objectives in Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries in California. Chapter IV.E.1 of Part 3 is entitled, "Applicability of Bacteria Water Quality Standards." It states, in part, that "the geometric mean and the STV contained in the applicable bacteria water quality objectives shall be applied in all circumstances, except in the context of a TMDL or a basin plan amendment. In the context of a TMDL or a basin plan amendment, Regional Water Boards may implement a reference system/antidegradation approach or a natural sources exclusion approach in accordance with Chapter IV.E.2." Chapter IV.E.2.b says, in part: "In the context of a TMDL or a basin plan amendment developed to implement the bacteria water quality objectives, a reference system/antidegradation approach may be utilized to ensure: (1) bacteriological water quality is at least as good as that of an applicable reference system, and (2) no degradation of existing water quality is allowed when the existing water quality is better than	This TMDL is not inconsistent with the Statewide Bacteria Provisions. While the Statewide Bacteria Provisions allow for the use of a reference system, they do not require it. The reference system/antidegradation approach was developed by the Los Angeles Water Board to allow for a certain number of exceedances of the Single Sample Maximum (SSM) bacteria objective in consideration of natural sources of bacteria which may, on occasion, cause an exceedance. The STV in the Statewide Bacteria Provisions approximates the 90th percentile of a bacterial population in a waterbody; it is not equivalent to an SSM. Because the numeric value of the STV can be exceeded up to 10% of the time in a calendar month, there is a built-in allowance for some exceedances. Applying a reference system/antidegradation approach to the STV objective, which already allows for a 10% exceedance rate, would result in an overall allowable exceedance rate that would not be adequately protective of beneficial uses. The proposed approach could potentially allow a higher illness rate than allowed by the U.S. EPA recommended criteria of 32 illnesses per 1000 recreators, which were incorporated into

		the reference system. In such circumstances, the TMDL or basin plan amendment may include a certain frequency of exceedance of the applicable bacteria water quality objectives based on the observed exceedance frequency in the applicable reference system or the targeted water body, whichever is less."	the Statewide Bacteria Provisions. The Los Angeles Water Board analyzed the reference system data for freshwater and beach sites for existing TMDLs in the region (see the attachment to these responses). While the SSM reference system approach would allow for a **daily** allowable exceedance, the STV approach would allow for a **monthly** allowable exceedance. Therefore, the STV reference system approach would allow for multiple excursions of the *numeric value* of the STV within a month, but only result in one actual exceedance of the STV water quality objective. In addition, a comparison of the reference system approach for the STV vs. the SSM using site-specific data for Los Cerritos Channel and Alamitos Bay showed that the STV allows for a greater number of exceedances overall, and would therefore be less protective than was intended by the Los Angeles Region's reference system approach.
1.4	Los Cerritos Channel Watershed Group	Based on the long history of using the reference system/antidegradation approach in the Region and the clear statement by the State Water Board that the use of the reference system /antidegradation approach is appropriate for use in TMDLs and Basin Plan	Because this is the first TMDL developed for the Los Angeles Region since the Statewide Bacteria Provisions became effective, and because the reference system/ antidegradation approach is incompatible with the STV based on local data analysis, this TMDL no longer

		Amendments for municipal stormwater discharges, we request that the approach be included in the proposed TMDL.	uses the reference system/antidegradation approach that was used in previous TMDLs in the region. Other regions in the State, including the North Coast and San Francisco Bay regions, have adopted TMDLs that apply the STV directly, without a reference system/ antidegradation approach, as well.
1.5	Los Cerritos Channel Watershed Group	Our second major concern is the 15-year implementation schedule. We appreciate having 15 years to come into compliance. The currently proposed schedule is almost consistent with the target date in our 2015 Watershed Management Program (WMP) for meeting bacteria standards in wet weather, which was 2040 based on the schedule for the Los Angeles River and the fact that we did not know how to comply with fecal indicator bacteria (FIB) standards in wet weather because of non-human sources. We still don't know to comply in wet weather and based on our experience and a particular provision of the proposed TMDL, it appears to be nearly impossible to comply with all TMDL requirements in 15 years.	The 15-year implementation schedule is aligned with the schedule included in the approved 2015 WMP (revised and approved in 2017). Bacteria is included in the WMP as a Category 2 pollutant. While the WMP states that the Watershed Group does not currently understand how to meet bacteria standards during wet weather, the 2040 final deadline included in the WMP is based on watershed control measures to address multiple pollutants (page 4-30). It is therefore reasonable to base the Los Cerritos Channel and Estuary, Alamitos Bay, and Colorado Lagoon Bacteria TMDL implementation schedule on the implementation schedule already included in the WMP.
1.6	Los Cerritos Channel Watershed	The provision in the proposed TMDL that will make it extremely difficult to meet the 15-year implementation schedule is the statement in	The analysis conducted by the Los Angeles Water Board does demonstrate that an 85% reduction of the 2010 baseline bacteria load will

	Group	the Waste Load Allocation section of Attachment A to the draft Resolution that: "A high flow suspension, as described in Chapter 2, applies to Los Cerritos Channel above Atherton Street, but not to the waterbodies below. The [load allocations (LAs)] for discharges to Los Cerritos Channel (above Atherton Street) may be suspended during days with rainfall greater than or equal to 0.5 inch and the following 24 hours, if it can be demonstrated that, for the same time period, discharges to Los Cerritos Channel below Atherton Street from Los Cerritos Channel above Atherton Street attain the LAs for Los Cerritos Channel below Atherton Street." The method to implement this requirement is explained on page 57 of the Staff Report, which states that: "In order to attain numeric targets in Alamitos Bay, bacteria loading from Los Cerritos Channel must be reduced by 85% of the baseline in the 2010 modeled year. In order to address uncertainty in the model assumptions, this TMDL will achieve this reduction by requiring the water discharged from Los	be required for those water bodies below Los Cerritos Channel above Atherton Street to meet the objectives in those waterbodies. Although water capture projects will be an important part of implementation, the required reduction is for bacteria load and not water volume and therefore other types of projects may also be of value. Any additional water capture projects necessary to address the discharge from the freshwater channel above Atherton Street to the saline water below Atherton Street can build on existing and planned projects and be completed in the 15-year implementation schedule.

		Cerritos Channel above Atherton Street to achieve the numeric targets for the downstream Los Cerritos Channel Estuary and Alamitos Bay." The Watershed's experience to date indicates that the best way to meet such a requirement is to construct and operate water capture projects that would capture sufficient water to capture 85% of the Enterococcus load that could discharge from the freshwater channel to the saline water downstream of the discharge point (approximately 100 feet downstream from Atherton Street.)	
1.7	Los Cerritos Channel Watershed Group	Although the Watershed Group has not yet determined the exact volume that would have to be captured to meet the proposed requirement in the TMDL, it does have experience with stormwater capture and capture costs. The Group was fortunate to be able to fund and construct four major water capture projects without funding from the Safe, Clean Water Program (SCWP), approved as Measure W in 2018, and has a fifth project funded for final design and construction through the SCWP. In addition, it has proposed three additional projects for design, or design and construction, and hopes to get a	If the Watershed Group demonstrates the continuing progress of water capture projects and other control measures, it may apply for a Time Schedule Order (TSO) after the TMDL is incorporated into the Regional MS4 permit to add as much as five years to the schedule, if necessary, to accommodate any potential construction and funding delays. The Watershed Group's proposal of 20 years in not based on any additional quantitative analysis to justify a lengthier schedule. If additional information is obtained through implementation of the TMDL, that information

		sixth project approved for construction this year. These projects are very expensive and the competition for SCWP funds is great. Although Measure W will provide a great deal of money over 30 years, it has been estimated to be only about one-third (1/3) of the amount needed. Therefore, the Watershed Group does not think it can build its way into compliance with FIB standards in wet weather in 15 years. The Group thinks it should be able to meet its 2025 target for dry-weather compliance unless it encounters further delays in implementation of a key dry-weather water capture project. The Group thinks it has a better chance to comply with wet-weather standards within 20 years. Therefore, it is requesting that the implementation schedule be changed to 20 years. The Group will continue to come into compliance as soon as possible, but 15 years is not enough time to accommodate funding and construction delays.	can be used to request a specific amount of time through a TSO. The Los Angeles Water Board recognizes the significant challenges in meeting this TMDL. However, attainment of the TMDL within the 15-year schedule will benefit from the water capture projects and other control measures already built and planned in the watershed. The schedule is consistent with the schedule in the WMP and is consistent with implementation schedules for other bacteria TMDLs in the region.
1.8	Los Cerritos Channel Watershed Group	The Watershed Group's third major concern is the requirement for weekly sampling. We do not understand the benefit of such sampling for the next several years. We, and Board	Receiving water monitoring prior to the final deadline is important to assess trends, assess effectiveness of best management practices

		staff, already know that we are not in compliance with the current FIB standards, especially for wet weather, and additional near-term monitoring is not needed to demonstrate non-compliance. It would make more sense to initiate such monitoring near the end of the permit term. We suggest that such monitoring be required in year 15 of a 20-year implementation schedule. Otherwise, millions of dollars will be spent on unnecessary monitoring. That money could be better spent building water capture and treatment projects.	(BMPs), and assist in planning efforts. However, in response to this comment, the required receiving water monitoring frequency has been reduced from weekly to monthly for the first 10 years of the implementation schedule. After 10 years, receiving water monitoring frequency must be weekly. Note that outfall monitoring must occur on either on a weekly basis and be subject to the geometric mean and STV waste load allocations (WLAs), or for a minimum of three wet-weather events and four dry-weather events during the calendar year and be subject to the STV. Outfall monitoring shall not be delayed and shall begin after Executive Officer approval of the monitoring plan.
1.9	Los Cerritos Channel Watershed Group	A fourth concern that the Los Cerritos Channel Permittees have with the proposed TMDL is the lack of a risk threshold in the numeric targets. Health risks and increased risks of various expressions of illness are mentioned in the problem identification (page 24 of the Staff Report) and the general discussion of water quality objectives (WQOs, page 27) acknowledges that the Statewide Bacteria Provisions, and the WQOs for the protection of	This TMDL directly incorporates the Statewide Bacteria Provisions risk protection level in its numeric targets. Since the numeric targets are the same as the REC-1 water quality objectives in the Statewide Bacteria Provisions, the same risk protection level of 32 illness per 1,000 recreators is incorporated. None of the sections of the Staff Report referenced in this comment contradict the incorporation of the risk protection level from the Statewide Bacteria

		REC-1 beneficial use for fresh, estuarine, and ocean waters are all based on a risk protection level of 32 illnesses per 1,000 recreators. Then, in the discussion of allocations (page 58) the Staff Report notes that FIB TMDLs are expressed in terms of the number of organisms in a given volume of water that is associated with public health risk. Later in the Staff Report (pages 88-89), there is a more detailed discussion of health and recreation focused on avoided costs. This discussion includes information from a study in San Diego County of recreational exposures in marine waters that estimated gastrointestinal illness risks at between 1.2 and 1.5 illnesses per 1,000 recreators depending on the assessment method. Another study cited was from Orange County. This study focused on an illness rate of about 0.8% among bathers at the beaches studied. This percentage equates to an illness rate of 8 per 1,000 recreators. These studies both showed illness rates much lower than the rate of 32 per 1,000 recreators adopted in the Statewide Bacteria Provisions yet this proposed TMDL does not even incorporate the State's conservative risk protection level in its numeric targets. This omission should be corrected before the	Provisions in the TMDL. Section 2, *Problem Identification* (page 24), discusses previous studies, which have shown a causal relationship between illness and recreational water quality as measured by fecal indicator bacteria densities. Section 2.1.2, *Water Quality Objectives* (pg 27), states, "In the Statewide Bacteria Provisions, the WQOs for fresh, estuarine, and ocean waters for the protection of the REC-1 beneficial use are based on a risk protection level of 32 illness per 1,000 recreators." Section 6, *Allocations* (pg 58), discusses the difference between load-based TMDLs and concentration-based TMDLs like this bacteria TMDL and explains that bacteria TMDLs are expressed in terms of the number of organisms in a given volume of water that is associated with public health risk. The public health risk that the densities are associated with is 32 illnesses per 1,000 recreators. Section 10.1, *Health and Recreation* (pages 88-89), contains a discussion of the benefits of the TMDL and provides some examples of illness events and the health-related costs due to illnesses caused by impaired marine waters. These studies do not necessarily reflect 32

		TMDL is adopted.	illnesses per thousand, but are included to show the costs inherent in swimming in polluted waters. These health risks are separate from the health risks associated with the REC-1 water quality objectives in the Statewide Bacteria Provisions, and in the targets, WLAs and LAs in the TMDL.
1.10	Los Cerritos Channel Watershed Group	A fifth problem with the current TMDL proposal is the absence of a dry-weather seasonal suspension of the Water Contact Recreation (REC-1) Beneficial Uses. Such a suspension is clearly allowed by the Implementation Chapter of the Statewide Bacteria Provisions, which specifies that: "A water board may adopt a seasonal suspension of the water contact recreation (REC-1) beneficial use to reflect water conditions considered inapplicable or unsafe for the REC-1 beneficial use due to low water flows, low water temperatures, or conditions that freeze water. A flow measure, water temperature measure, or other condition(s) shall be established by the water board to describe specific conditions during which the seasonal suspension would apply. To adopt a seasonal suspension of the REC-1 beneficial use, the water board must conduct a use	The Los Angeles Water Board disagrees with the suspension of the REC-1 beneficial use during dry weather. During dry-weather periods in the Los Cerritos Channel, people may use water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. The TMDL should not be delayed because it will provide for restoration of waterbodies that have not met bacteria standards since at least 1998.

		attainability analysis. A water board's adoption of a seasonal suspension of the REC-1 beneficial use is subject to review and approval by the State Water Board (if the adopting water board is a Regional Water Board) and USEPA." A dry-weather seasonal suspension is certainly appropriate for the freshwater Los Cerritos Channel because average dry-weather flows have been reduced to an average of less than 0.2 cfs at the mouth of the watershed. This flow is expected to be further reduced by operation of current and future water capture projects. The extremely low flows in the Channel, and the availability of 20 years of monitoring data, should make completion of a Use Attainability Analysis relatively simple for the Regional Water Board staff to conduct. Adoption of the proposed TMDL should be delayed until a dry-weather seasonal suspension of the freshwater channel can be included in the document.	
1.11	Los Cerritos Channel Watershed Group	Lastly, we were surprised and disappointed that neither the Staff Report nor the Substitute Environmental Document (SED) cited the updated WMP nor the updated Reasonable Assurance Analysis. We realize that they have	The 2021 WMP and Reasonable Assurance Analysis (RAA) have not yet been approved by the Los Angeles Water Board and are thus not final documents that can be cited in the TMDL

		not yet been approved by the Regional Board, but they were submitted to the Board on June 29, 2021 and contain detailed information about BMPs that have been implemented since the original WMP and RAA were approved in 2015, as well as updated information on reasonably foreseeable methods of compliance that could be cited and qualified as subject to Regional Board approval. The use of old data makes both the TMDL and the SED vulnerable to legal challenge. To be safe, we recommend that the draft TMDL be revised to include both updated information on BMPs that have been implemented and a more accurate discussion of reasonably foreseeable methods of compliance.	or SED. Even if the updated information on reasonably foreseeable methods of compliance was cited, it would not change the environmental impact analysis in the Staff Report or SED because the reasonably foreseeable methods of compliance are evaluated at a program level. Public Resources Code section 21159 places the responsibility of project-level analysis on the agencies that will implement the water board's TMDL. To explain, the Los Angeles County Flood Control District, a member of the LCC Watershed Group, has provided details about the updated reasonably foreseeable methods of compliance in the 2021 WMP (see Comment 2.7). Assuming the County's assertion that the BMP capacity in the Staff Report is underestimated by 83 acre-feet, the programmatic analysis of the environmental impacts of the BMPs would not change. This is because the types of BMPs would be the same: low flow diversions and water capture measures such as green streets and infiltration facilities. The programmatic level impacts due to the implementation of these types of BMPs, such as impacts to air quality, noise, and transportation, would not change if the BMP capacity was increased by 83 acre-feet,

			especially considering the built out urban environment of this watershed and the baseline day-to-day construction activities occurring therein. Finally, the TMDL is not based on old data. The TMDL makes use of monitoring data from 2000 through 2020 and implementation information from the latest approved WMP, dated September 21, 2017.
2.1	County of Los Angeles and Los Angeles County Flood Control District	The proposed Los Cerritos Channel and Estuary, Alamitos Bay, and Colorado Lagoon Indicator Bacteria Total Maximum Daily Load (LCC Bacteria TMDL) should incorporate the reference system/antidegradation approach used in all other bacteria TMDLs in the Los Angeles Region and the Statewide Bacteria Provisions.	See response to Comments 1.2 and 1.4.
2.2	County of Los Angeles and Los Angeles County Flood Control District	The proposed LCC Bacteria TMDL does not appear to incorporate the reference system/antidegradation approach that was created and has been utilized by the Regional Board to account for natural sources of bacteria in all other Bacteria TMDLs. Section 1.1 of the Draft Staff Report states that the reference system/antidegradation approach was not used "due to the difference in the	See response to Comment 1.3.

		expression of the STV objectives in the Statewide Bacteria Provisions as compared to the prior single sample maximum objectives in the 2001 and 2010 Bacteria Objectives." Section IV.E.2.b of the Statewide Bacteria Provisions explicitly allows the use of a reference system/antidegradation approach. Specifically, Section IV.E.2.b of the Statewide Bacteria Provisions states: "In the context of a TMDL or a Basin Plan amendment developed to implement the Bacteria Water Quality Objectives, a reference system/antidegradation approach may be utilized to ensure: (1) bacteriological water quality is at least as good as that of an applicable Reference System, and (2) no degradation of existing water quality is allowed when the existing water quality is better than the Reference System. In such circumstances, the TMDL or Basin Plan amendment may include a certain frequency of exceedance of the applicable Bacteria Water Quality Objectives based on the observed exceedance frequency in the applicable Reference System or the targeted water body, whichever is less."	

2.3	County of Los Angeles and Los Angeles County Flood Control District	The County of Los Angeles and the Los Angeles Flood Control District completed an analysis comparing data collected at the marine water reference site previously utilized by the Regional Board (Leo Carrillo Beach) and freshwater reference sites previously utilized by the Regional Board (multiple waterbodies monitored by the Southern California Coastal Water Research Project) to the proposed numeric targets. These datasets have been used by the Regional Board to calculate allowable exceedance frequency for marine and freshwater sites for all TMDLs in the region. The same calculation methodology described in Section 2.2 of the Draft Staff Report was used for the analysis. Data analysis is available upon request. Data from the Leo Carrillo Beach natural reference site exceeded the STV numeric target proposed in the LCC Bacteria TMDL during 21 percent of calendar months, which would result in approximately 2.5 allowable exceedance months, and exceeded the geometric mean numeric target during 18 percent of 6-week periods containing at least 5 sample results, which would result in 10 allowable exceedances in a year. Data from the freshwater reference sites exceeded the	See response to Comment 1.3. The datasets used by the Los Angeles Water Board to calculate allowable exceedance frequencies for all previous bacteria TMDLs in the region were only ever used to calculate an allowable exceedance frequency of the SSM, not the STV, and only on a *daily* basis. An exceedance rate was never calculated on a monthly basis. Furthermore, the geometric mean objective has never been subject to an allowable exceedance frequency. Every previous bacteria TMDL in the Los Angeles Region has stated that the geometric mean objectives may never be exceeded. In fact, with some allowable exceedances of the STV (up to 10% of the time in a calendar month) and no allowable exceedances of the geometric mean, the Los Cerritos Channel and Estuary, Alamitos Bay, and Colorado Lagoon TMDL is fairly consistent with previous bacteria TMDLs in the Region in terms of the overall allowable exceedance frequency. In contrast, the County's proposal to allow the STV to be exceeded for three months in Los Cerritos Channel Estuary and Alamitos Bay and one month in Los Cerritos Channel, as well as to allow exceedances of the geometric mean, is

		STV numeric target proposed in the LCC Bacteria TMDL during 8 percent of the calendar months where at least 1 sample was collected within a waterbody, which would result in approximately 1 allowable exceedance month, and exceeded the geometric mean numeric target during 4 percent of 6-week periods containing at least 5 sample results within a waterbody, which would result in 2 allowable exceedances in a year. By comparison, the draft LCC Bacteria TMDL requires that the waterbodies not have a month where the STV numeric target is exceeded more than 10 percent of the time and to never have a 6-week period where the geometric mean numeric target is exceeded. Due to the persistence of natural sources of bacteria (such as from wildlife), waterbodies addressed by the LCC Bacteria TMDL should be required to meet water quality conditions which mirror those at reference sites. In the Statewide Bacteria Provisions response to comments (August 2018), comment 4.09 indicates that TMDLs can *"allow for the reference system/antidegradation and natural sources exclusion approaches to alter the exceedance frequency of the geometric mean and the STV or SSM element of the water quality objectives within the context of a*	inconsistent with the allowable exceedance frequencies in previous TMDLs for the Los Angeles region and would not result in attainment of the STV or geometric mean objectives. The commenter points out that data from the Leo Carrillo Beach reference site and the freshwater reference sites themselves exceed the STV and geometric mean. However, these reference sites are not entirely natural and are not free from human sources of bacteria. For example, there are septic systems and two campgrounds in the Arroyo Sequit watershed draining to Leo Carrillo beach. It is not surprising that these sites may occasionally exceed the STV and geometric mean objectives. It does not justify the application of a reference system approach to the objectives, which already allow for a certain amount of exceedances (approximately 10% in the case of the STV), or the application of a reference system approach to the geometric mean.

		TMDL." As such, inclusion of the reference system/antidegradation approach in the LCC Bacteria TMDL through the identification of allowable exceedance (potentially expressed as calendar months and 6-week periods) would 1) promote consistency with other bacteria TMDLs in the region; and 2) be consistent with the expression of the objectives in the Statewide Bacteria Provisions. Not including the approach would require Municipal Separate Storm Sewer System (MS4) Permittees to attempt to meet water quality conditions that cannot even be met in receiving waters with no MS4 influence given the presence of natural sources of bacteria in all waterbodies. Request: Revise the allocations to incorporate allowable exceedances determined by the data from the natural reference sites,	
2.4	County of Los Angeles and Los Angeles County Flood Control	Request: To be consistent with the Statewide Bacteria Provisions and Los Angeles Region Basin Plan, revise the Numeric Targets section of the LCC Bacteria TMDL and the corresponding sections of the Draft Staff Report as follows:	See response to Comment 1.9. In addition, the first paragraph of section 3, *Numeric Targets*, of the draft Staff Report has been clarified to state:

	District	"The TMDL has a multi-part numeric target based on the bacteria water quality objectives (WQOs) based on *an estimated illness rate of 32 per 1000 water contract recreators* for fresh, estuarine, and marine waters to protect the REC-1 and REC-2 beneficial uses."	"The TMDL has a multi-part numeric target based on the bacteria water quality objectives (WQOs). The geometric mean and STV objectives are based on an estimated illness rate of 32 per 1000 water contract recreators for fresh, estuarine, and marine waters to protect the REC-1 and REC-2 beneficial uses."
2.5	County of Los Angeles and Los Angeles County Flood Control District	As noted in Section 2.1.2 of the Draft Staff Report, the WQOs outlined in the Statewide Bacteria Provisions that form the basis of the LCC Bacteria TMDL numeric targets "are based on a risk protection level of 32 illnesses per 1,000 recreators." These WQOs utilize fecal indicator bacteria (FIB) (i.e., E. coli and enterococcus) to provide a sometimes inaccurate, but readily quantifiable approximation of whether the desired risk protection level is being attained and the REC-1 beneficial use is being protected. The United States Environmental Protection Agency (U.S. EPA) is in the process of developing new criteria for an alternative indicator (i.e., coliphage) to address deficiencies in the current FIB-based WQOs; however, the state of the science regarding the detection and quantification of health risks posed by microbial agents in recreational waters is evolving at a rapid pace. New	See response to Comment 1.9. Like the State Water Board, the Los Angeles Water Board acknowledges the important role that alternative indicators and methods will play in the future. At the time that these potential alternative indicators are fully developed, and their advantages and limitations are fully understood, the Los Angeles Water Board may consider incorporating them in TMDLs or other regulations. However, the proposed revision to include a risk protection level alternative compliance pathway is premature and lacks sufficient implementation detail to be considered at this time. There are several potential ways to demonstrate an estimated illness rate, such as an epidemiological study or, as the comment

		indicators (e.g., the human marker HF183) are being evaluated by researchers in California, as they provide a better representation of the primary sources of risk (i.e., human fecal contamination, enteric viruses) to water contact recreators. Associated detection methods for the new indicators allow enumeration of samples with rapid turnaround times at increasingly affordable rates. These developments are being harnessed by existing modeling frameworks (i.e., Quantitative Microbial Risk Assessment [QMRA]) to provide improved estimates of illness risk on a site-specific basis. One such example of the application of such a modeling framework providing improved estimates of illness risk is identified in Section 10.1 of the Draft Staff Report which states: "One study of recreational exposures in marine water impacted by MS4 discharges following storm events in San Diego County estimated gastrointestinal illness risks at 1.2 illnesses (based on epidemiological study) and 1.5 illnesses (based on quantitative microbial risk assessment) per 1000 wet weather recreation events (surfing) (Soller, Schoen, Steele, & Griffith, 2017)." The rapidly advancing nature of the science	details, a QMRA. However, for an illness rate to be included as a compliance pathway in a TMDL, the specific method would need to be identified and detailed, its limitations would need to be evaluated, and specific criteria for its compliance demonstration would need to be described. As science progresses and our understanding of QMRAs improves and evolves, such compliance pathways in bacteria TMDLs could potentially be considered in the future.

		was a key point of discussion throughout the statewide effort to develop the Statewide Bacteria Provisions and the subject of numerous public comments. These developments were explicitly acknowledged and discussed in the supporting Staff Report for the Statewide Bacteria Provisions. Under Issue H in their Analysis of Project Options, the State Board established the following understanding: "As described in Section 6.2.1 of the U.S. EPA 2012 Recommended Water Quality Criteria, recreational water epidemiological studies describe the probability of illnesses associated with exposure to fecal contamination as measured by fecal indicator bacteria. It is important to note that fecal indicator bacteria do not necessarily cause illness themselves. Instead, they are used to gauge the magnitude and extent of fecal pollution in a water body." The science will continue to evolve, and the surrogate FIB will change and improve over time to allow a better assessment of pathogens that cause illness. For example, a QMRA could be used to link bacteria in the genus Bacteroides to illness rates providing a more robust and site-specific criteria.	

		Alternatively, QMRA can be used to evaluate whether the ultimate goal of the TMDL, a risk protection level of 32 illnesses per 1,000 recreators, is attained. The administrative record for the Statewide Bacteria Provisions illuminates the State Board's position on alternative risk quantification approaches and acknowledges the important role they will likely play. In doing so, the State Board embraces the use of the best available science and encourages the efforts being undertaken by proactive agents to further advance this science and its regulatory applications. These efforts will ultimately result in more efficient allocation of resources resulting in attainment of improved public health outcomes. It is for this reason that the Statewide Bacteria Provisions identified the REC-1 bacteria WQOs as an estimated illness rate (NGI) of 32 illnesses per 1000 water contact recreators, which are expressed as magnitudes of FIB which are not to be exceeded over certain durations and frequencies. As identified in the Draft Staff Report, the Statewide Bacteria Provisions WQOs (including the estimated illness rate) were subsequently incorporated	

		into the Water Quality Control Plan for the Los Angeles Region (Los Angeles Region Basin Plan). Request: To be consistent with the Statewide Bacteria Provisions and Los Angeles Region Basin Plan, revise the Numeric Targets section of the LCC Bacteria TMDL and the corresponding sections of the Draft Staff Report as follows: Revise the Implementation section of the LCC Bacteria TMDL and the corresponding sections of the Draft Staff Report as follows: "The MS4 WLAs will be implemented through the Regional MS4 permit and the Caltrans statewide stormwater permit. The WLAs shall be incorporated into the MS4 permit as water quality-based effluent limitations (WQBELs) at the time of permit issuance, modification, or renewal. MS4 Permittees may demonstrate compliance with the WQBELs if any of the following requirements is demonstrated: 1. There are no exceedances of the WQBELs at the Permittee's applicable MS4 outfall(s); or 2. There are no exceedances of the numeric targets in the receiving water downstream of	

		the Permittee's outfalls; or 3. There is no direct or indirect discharge from the Permittee's MS4 to the receiving water during the time period subject to the WQBEL"; *or* 4. *The Permittees demonstrate that the estimated illness rate (NGI) of 32 per 1000 water contact recreators or less is achieved in the receiving water based on the study results approved by the Executive Officer."*	
2.6	County of Los Angeles and Los Angeles County Flood Control District	The TMDL should incorporate provisions to change and modify monitoring requirements through the CIMP through approval of the Executive Officer. The permittees in the Los Cerritos Channel watershed have been very active in implementing projects. For example, the District partnered with the Cities of Long Beach and Signal Hill to construct the Los Cerritos Long Beach Airport stormwater project, which cost over $20 million. The Permittees have also constructed multiple dry weather diversions in the watershed. With the passage of the Safe, Clean Water Program, more projects are being proposed and are expected to be implemented in the Los Cerritos Channel watershed. However, funds are not unlimited, and agencies will need to prioritize funds as we implement projects and	See response to Comment 1.8. The estimated monitoring costs provided by the County are not outside the range of costs observed for similar monitoring programs in the Los Angeles region. However, as stated in response to Comment 1.8, receiving water monitoring is necessary to assess trends, assess effectiveness of BMPs, and assist in planning efforts. In response to this comment, the required receiving water monitoring frequency has been reduced from weekly to monthly for the first ten years of the implementation schedule. In addition, the TMDL already includes a delay in monitoring. Permittees would not begin

		programs to address this TMDL. The proposed LCC Bacteria TMDL requires weekly monitoring of bacteria in receiving waters. Based on the cost to implement similar weekly bacteria monitoring programs in the Los Angeles Region, the annual labor cost alone to implement such a program is expected to be on the order of $100k. Using the analytical costs provided in Section 9.3 of the Draft Staff Report, the cost to conduct the analysis for the weekly bacteria monitoring samples amounts to between $25k and $40k annually. Over a 15-year period, this conservatively amounts to a total cost of $1.875 million. This monitoring cost amounts to between 9 and 15 percent of the total TMDL compliance cost when compared with the cost of implementation presented in Section 9.1 of the Draft Staff Report ($12.9 million to $20.5 million). These costs should be included to provide context to the reader as to what the cost of weekly monitoring would be when compared to the total cost of compliance provided in the preceding sections. All things considered, the most efficient way to achieve water quality goals is to dedicate resources toward implementation actions that	TMDL monitoring until their monitoring plans were approved by the Executive Officer, approximately 18 months from the effective date of the TMDL.

		will improve water quality conditions, and to have an appropriately designed monitoring plan according to the implementation phases. This helps permittees focus resources on implementing projects while tracking progress reflected by adequately collected monitoring data. As such, it would be better for each Watershed Management Group or responsible entity to have flexibility in revising their Receiving Water Monitoring Plan (or CIMP) for consideration and approval by the Regional Board Executive Officer. The CIMPs are subject to public comment and can incorporate stakeholder input on the approach proposed in the CIMPs.	
2.7	County of Los Angeles and Los Angeles County Flood Control District	BMP capacities and costs presented in the Draft Staff Report should be reflective of the most recently available data and modeling tools. The Draft Staff Report underestimates the BMP capacities and costs required to comply with the Los Cerritos Channel Bacteria TMDL. Section 9 of the Draft Staff Report does not include the most up-to-date BMP capacities and costs developed using the most recently available data and modeling tools, which can be found in the Los Cerritos Channel	Because the Los Angeles Water Board has not yet finished its review or approved the updated WMP, the revised BMP capacity estimates and costs were not cited in the Staff Report. Furthermore, the purpose of the cost considerations in the Staff Report is to provide a reasonable range of potential costs of implementing this TMDL and to address potential concerns associated with the implementation costs. Thus, even if the revised BMP capacity estimates and costs in the updated WMP were included, they would simply expand the range of costs already

		Watershed Management Program that was updated in June 2021 (2021 LCC WMP). Within the Draft Staff Report, the BMP capacity required to reach TMDL compliance of 1.96 acre-feet (pg. 81 Table 16) is an order of magnitude less than the additional BMP capacity of 84.7 acre-feet needed to attain the bacteria WQOs identified in the 2021 LCC WMP (2021 LCC WMP Attachment A pg. 96 Figure 4-6). Similarly, the range of capital costs presented in the Draft Staff Report of $12.6 million to $20.1 million (pg. 86 Table 19) to reach compliance is significantly less than additional capital costs of $74.04 million needed to attain the bacteria WQOs identified in the 2021 LCC WMP (2021 LCC WMP Attachment A pg. 96 Figure 4-6).	included in the TMDL. See also response to Comment 1.11.
3.1	Heal the Bay	We commend the Los Angeles Regional Water Quality Control Board (Regional Board) for creating a Total Maximum Daily Load (TMDL) in response to the 303(d) listings for the Los Cerritos Channel, Alamitos Bay, and Colorado Lagoon. We further support the Regional Board's action to include the Los Cerritos Channel Estuary in this TMDL, based on recent data that show impairment for *Enterococcus*. We offer the following	Comment noted.

		comments and recommendations to help strength the Proposed Basin Plan Amendments and to further inform the Board.	
3.2	Heal the Bay	Geometric mean and STV objectives should be applied at all times. To protect people from harmful levels of pathogens, it is imperative to use metrics that incorporate short term and long-term measurements of FIB, consistent with the State Bacteria Provisions. Both geometric mean and STV objectives are given in the State Provisions, providing for strong public health protection. The proposed Basin Plan Amendments include some language that appears to give discretion in choosing a geometric mean or STV objective. We request that the proposed TMDL language be consistent with the State Provisions and be clear in requiring attainment of both the geometric mean and STV numeric targets. The geometric mean value indicates the average of the most recent samples collected at a site while controlling for high variability in the same readings. That makes geometric mean calculations effective at assessing the water quality over the past several weeks as well as reducing the uncertainty that comes with high temporal variability in FIB	The allocations section and monitoring program section of the Staff Report and Basin Plan amendment have been revised to clarify that the geometric mean and STV are both applicable targets and allocations, consistent with the water quality objectives in the Statewide Bacteria Provisions. For receiving water monitoring, responsible entities shall conduct monthly monitoring for the first 10 years to assess water quality trends. After the first 10 years, responsible entities shall conduct weekly monitoring to support calculation of the geometric mean and assessment of compliance with the STV. If the sampling results are greater than the allowable STV ***and*** geometric mean targets, the water body segment shall be considered not attaining the TMDL. For compliance monitoring, MS4 responsible entities shall monitor representative outfalls either on a weekly basis and be subject to the geometric mean ***and STV*** WLAs or monitor the representative outfalls at a minimum of three

		concentrations. However, geometric means can dampen large spikes in FIB that occur, and thus, mask bacterial exceedances. Using the STV metric, in tandem with the geometric mean, will capture all bacterial exceedances in addition to ambient water quality conditions (as captured by the geometric mean). When used in conjunction, both metrics provide more accurate information on water quality than a single metric can. We are concerned that high FIB events will go unregulated if the Regional Board bases compliance solely on geometric mean, in scenarios where there are at least five samples spaced over a six-week time period, as is the case in the Proposed Basin Plan Amendment. Long-term, those high FIB events may average out hypothetically. However, the people who are exposed to that water during a high FIB event will be impacted in a very real way. Attainment of the objectives should be assessed through both the geometric mean and STV and monitoring should be designed at a frequency to ensure that both targets can be calculated. Waste load allocations for point and nonpoint sources are also presented in the Proposed Basin Plan Amendment as a "geometric mean	wet weather events and four dry weather events during the calendar year and be subject to the STV only. If a statistically sufficient number of samples is not available to calculate the geometric mean, then attainment of the WLAs and LAs shall be determined based only on the STV.

		or an STV", which is inconsistent with State Provisions. The "or" must be changed to an "and." We recommend that the Regional Board require weekly sampling, and use both the geometric mean and the STV to determine compliance with the requirements of this TMDL. Using both metrics can be accomplished with minimal effort, as it does not require extra fieldwork or additional calculations. We appreciate the assumption made that no bacterial decay occurs in discharges from storm drains to receiving water. It is a good assumption considering the short distances between outfalls and their receiving waters, and it does provide some margin of safety for this TMDL. However, using geometric mean, SSM, and STV (or, at a minimum, geometric mean and STV) in tandem will provide much better assurance for a margin of safety.	
3.3	Heal the Bay	We appreciate and support the 3-year implementation schedule for all non-point source permittees to achieve LAs for this TMDL. However, the implementation schedule for MS4 permittees is excessively long.	The implementation schedule for MS4 permittees provides sufficient time to survey, design, and coordinate monitoring plans and is consistent with previously adopted TMDLs. The currently approved IMPs and CIMPs are

		MS4 permittees are given a full year to submit a monitoring plan, and an additional 6 months to begin implementation of that plan. It is stated that MS4 permittees may use an existing or modified integrated monitoring program (IMP) or CIMP from their MS4 Permit to meet this requirement. If existing plans can be used or modified to address this TMDL, they should be (to reduce redundancies). However, MS4 permittees would not need 18 months to implement an existing plan. Therefore, if an existing or modified C/IMP will be used to comply with the monitoring requirements of this TMDL, the plans should be submitted no later than 6 months from the effective date of the TMDL, and implementation of that plan should begin no later than 3 months from approval of that plan. Nine months is sufficient time to implement an existing monitoring plan.	based on the 2010 bacteria water quality objectives. This TMDL requires responsible entities to update their IMPs or CIMPs according to the effective bacteria objectives in the Statewide Bacteria Provisions and this TMDL, which will take time. In the meantime, there is an existing water quality assessment of these waterbodies, as documented in the TMDL problem statement.
3.4	Heal the Bay	Similarly, MS4 permittees are also given two full years to submit an implementation plan. It is stated that MS4 permittees may use an existing Watershed Management Plan (WMP) from their MS4 Permit to meet this requirement. Again, if existing plans can be used or modified to address this TMDL, they should be. However, MS4 permittees would	Similar to monitoring plans, MS4 permittees will need sufficient time to develop implementation plans or update their WMPs to include the Los Cerritos Channel and Estuary, Alamitos Bay, and Colorado Lagoon Bacteria TMDL.

		not need 2 years to submit an existing or updated plan. Therefore, if an existing or modified WMP will be used to comply with the implementation requirements, the plans should be submitted no later than 6 months from the effective date of the TMDL.	
3.5	Heal the Bay	Additionally, 15 years is far too long to wait for MS4 permittees to achieve their WLAs. The Colorado Lagoon was a perennial beach bummer on Heal the Bay's Beach Report Card. However, with the implementation of the Colorado Lagoon Restoration Project, there have been vast improvements in water quality for the Colorado Lagoon over the course of only approximately 4 years. Water Quality improvements over a more reasonable time period than 15 years is clearly attainable. One step has already been achieved with the Colorado Lagoon Restoration Project. With the momentum in Los Angeles County for implementation of stormwater capture projects (with the Integrated Regional Water Management Program, the Safe Clean Water Program, state and federal funding for multi-benefit water projects, and more) MS4 permittees should be able to reduce stormwater pollution and achieve their WLAs within the next decade. We urge the Regional	Based on a on a consideration of the time needed to plan, design, fund, and construct stormwater compliance projects, 15 years is a reasonable and practicable schedule, given the distribution of urban areas in the watershed, the various bacteria sources in the watershed that must be controlled, and the challenge of achieving the final WLA in wet weather.

		Board to adjust the implementation schedule for MS4 permittees so that achievement of WLAs are due 10 years from the effective date of the TMDL.	
3.6	Heal the Bay	There are other point sources identified in the Staff Report, including the AES Alamitos Generating Station, 2 minor individual NPDES permittees for treated stormwater runoff, and 7 permittees under the general NPDES permit program. These permittees are not included in the implementation schedule. We request that all NPDES permittees be required to submit and enact their monitoring and implementation plans and achieve their WLAs along with the MS4 permittees, with the alterations to the deadlines as recommended above.	Individual NPDES permittees and general NPDES permittees are included in the implementation schedule, and they are required to attain WLAs upon the effective date of the TMDL. They are not major bacteria sources; therefore, they are not required to submit TMDL monitoring and implementation plans separate from the monitoring and reporting requirements of their NPDES permits.
3.7	Heal the Bay	If high flow suspension is adopted, the Regional Board should require rain advisories and permanent signage posted for the Los Cerritos Channel and for any affected downstream waters to inform the public of the risk. We do not oppose the high flow suspension proposed for the Los Cerritos Channel (above Atherton Street) considering the dangerous conditions in this part of the waterway during	The Los Angeles Water Board agrees that rain advisories and warning signage for high flow conditions in Los Cerritos Channel should be posted by the appropriate local agency to inform the public of the risk. In response to this comment, the Los Angeles Water Board will revise section 3.1 of the Staff Report, *Consideration of the High Flow Suspension*.

		and immediately following a 0.5-inch or greater rain event. We support the Regional Boards action to rescind this suspension after 24-hours following the rain event. However, <u>if high flow suspension is awarded to Los Cerritos Channel (above Atherton Street), the Regional Board should require</u> rain advisories and permanent signage posted for the Los Cerritos Channel and for any affected downstream waters to inform the public of the risk. We further support the Regional Board's action to maintain downstream REC-1 requirements during high flow events. Other areas in the Los Cerritos Estuary, Alamitos Bay, and Colorado Lagoon remain accessible even during high flow events, so the goal remains to achieve REC-1 standards at all times – dry, wet, and high flow – to protect public health.	
3.8	Heal the Bay	The cost analysis in the Staff Report offers pertinent information for creating an appropriate plan to achieve the water quality requirements of this TMDL, and supports the need for TMDL implementation. We appreciate the thorough cost analysis	Comment noted.

		provided in the Staff Report, and commend staff for a balanced assessment of both the costs of compliance as well as the costs of non-compliance. It may be more difficult to quantify the costs of non-compliance for some metrics; but for those impacted by water pollution, the effects are no less real or pervasive. The costs of compliance analysis does provide very pertinent information, and should be considered in creating the right plan to achieve water quality requirements of this TMDL. The cost of non-compliance also provides key evidence for why this TMDL is important for the Regional Board to achieve its mission: "To preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations."	
4.1	USEPA	Regarding the Proposed Amendment to Suspend Recreational Beneficial Uses in Los Cerritos Channel During Unsafe Weather Conditions: The draft amendment proposes to add the High Flow Suspension (HFS) exception (i.e.,	The staff report has been revised to provide a demonstration that the upstream tributaries, including Heather Channel and Los Cerritos Channel Line E, meet the criteria for a high flow suspension established in the 2003 UAA. Therefore, the high flow suspension also applies to these tributaries of Los Cerritos

		to remove REC-1 and REC-2 beneficial uses during certain high flow events) to the Los Cerritos Channel above Atherton Street in Table 2-1a at page 2-21 of the Basin Plan. Since beneficial use designations (or lack thereof) apply to upstream tributaries if the upstream tributaries are not listed separately, please clarify whether or not the proposed addition of the HFS (i.e., removal of uses) is intended to apply to the upstream tributaries to the Los Cerritos Channel above Atherton Street. If so, the tributaries would need to be included in the Use Attainability Analysis (UAA) (see comment number 2. below).	Channel.
4.2	USEPA	The Tentative Resolution at paragraph 25 states that the EPA-approved 2003 UAA for HFS was a categorical UAA for all engineered flood control channels with restricted or prohibited storm events, and that the Los Cerritos Channel above Atherton Street fits the category and should be now included. Similarly, the Staff Report also states that the 2003 UAA was a categorical UAA and that Los Cerritos Channel above Atherton Street fits the category. However, the 2003 UAA applied to a specific list of 39 waterbodies that fit certain factors and met the conditions for an approvable UAA; the Los Cerritos Channel	Section 3.1 of the Staff Report provides the criteria for the application of a high flow suspension as follows: a) inland water bodies b) flowing water bodies c) engineered channels d) water bodies where access can be restricted or prohibited (through fencing/signs) Engineered channels are defined as inland, flowing surface water bodies with a box, V-shaped or trapezoidal configuration that have been lined on the sides and/or, in

		was not included in the list of waterbodies. The Staff Report states that the Los Cerritos Channel above Atherton Street meets the criteria to be included in the HFS UAA but does not include any details or analysis to support the inclusion. Since the 2003 UAA only applied to the 39 specific waterbodies, please include a more detailed discussion and description of the factors and conditions for why the Los Cerritos Channel above Atherton Street (and any upstream tributaries) should now be included in the HFS UAA. UAAs are described at 40 CFR 131.10(g).	some cases, bottom with concrete. Engineered channels are constructed to reduce the incidence of flooding in urbanized areas by conveying stormwater runoff to the ocean or other discharge point as efficiently as possible. These modifications create life-threatening "swift water" conditions during and immediately following significant storm events. The Staff Report has been modified to include additional information about how Los Cerritos Channel meets these criteria.
4.3	USEPA	The new WQOs for REC-1 for fresh waters (using *E. coli*) and for estuarine waters (using *enterococcus*) include both a geometric mean value and an STV. The numeric targets for the TMDLs include both the geometric mean value and the STV and reflect that both must be met to meet WQSs. The proposed TMDL states that if it is not possible to calculate a geometric mean due to lack of data (i.e., less than 5 data points), then only the STV can be used to determine attainment of the numeric targets. However, the wasteload allocations and load allocations state that only one or the other value must be attained to meet the TMDL. Both values should be included in the	See response to Comment 3.2.

		WLAs and LAs to ensure the TMDL to achieves the water quality standards. If insufficient data points exist to determine a geometric mean value, then only the STV would be available to determine compliance with the WLAs; this may be discussed in the implementation section.	
4.4	USEPA	The TMDL submittal should include an identification of all point and nonpoint sources of bacteria, including the location of sources and the quantity of the loading. At a minimum, a summary of sources and relative magnitudes identified in the Staff Report for the different subregions should be included in the TMDL (Attachment A).	The Basin Plan amendment has been modified to include a more comprehensive summary of sources.
4.5	USEPA	The TMDL submittal should include a discussion of the loading capacity (or linkage analysis) of the water bodies. Please include a summary of the linkage analysis included in the Staff Report in the TMDL (Attachment A).	The Basin Plan amendment has been modified to include a summary of the linkage analysis.
4.6	USEPA	In Table 7-44.2, please list the entities (by name) that will receive LAs and WLAs, and the WLAs and LAs that are assigned to each entity; please include permit numbers and the WLAs. A WLA for future sources may be	In order to provide more specificity, permit numbers have been added to the implementation section of the Basin Plan amendment.

		included where appropriate.	