

State of California  
California Regional Water Quality Control Board  
Santa Ana Region

Amendment to the Water Quality Control Plan for the Santa Ana River Basin to Revise  
the Schedule for Attaining the Fecal Coliform Total Maximum Daily Loads for the  
Shellfish Harvesting Beneficial Use in Newport Bay

Staff Report

June 3, 2022

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## Executive Summary

This amendment to the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) proposes to revise the schedule for attaining the Fecal Coliform Total Maximum Daily Loads (TMDLs) for the Shellfish Harvesting (SHEL) beneficial use in Newport Bay and provide non-substantive editorial changes to Basin Plan Chapter 6, Section 3.a. Fecal Coliform TMDLs. Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) staff proposes to extend the TMDLs attainment date for meeting the SHEL fecal coliform water quality objectives (WQOs) from December 31, 2022 to December 31, 2030.

## Introduction

The Basin Plan specifies the following WQOs for pathogen indicator bacteria to protect the SHEL beneficial use as:

**SHEL:** fecal coliform: median concentration not more than 14 most probable number per 100 milliliters (MPN/100 mL) and not more than 10% of samples exceed 43 MPN/100 mL.

No changes to these objectives are proposed. However, as a part of this Basin Plan amendment, extension of the TMDLs' attainment date for meeting the SHEL fecal coliform WQOs is recommended. In addition, several editorial changes to the current Basin Plan language are proposed for the Fecal Coliform TMDLs to provide more clarity (e.g., changing TMDL to TMDLs since two water bodies are addressed (both Upper and Lower Newport Bay); TMDL "compliance" to TMDL attainment; "amended" TMDLs to revised TMDLs).

The Fecal Coliform TMDLs established for Newport Bay in 1999 include wasteload and load allocations and an implementation plan intended to assure that the SHEL WQOs for fecal coliform identified above would be achieved. Currently, the attainment date for the Fecal Coliform TMDLs for meeting the SHEL WQOs is December 31, 2022, revised from December 30, 2019, per Resolution No. R8-2017-0019 adopted by the Santa Ana Water Board on June 16, 2017. At that time, Santa Ana Water Board staff anticipated that an additional three years would be needed to perform the necessary studies to determine whether the current WQOs for bacteria in shellfish, which are water column-based, actually correlate with indicator bacteria and pathogens in shellfish tissue. Due to the complexity and estimated cost, the study has been divided into phases to accommodate the level of funding available for this type of work. As a result, only Phase I of the study was able to be completed, and that study only focused on dry season conditions, not wet season conditions. Therefore, extending the attainment date is proposed in order to conduct the other phase (wet season) of this study to determine whether the TMDLs need to be revised, or whether new WQOs need to be developed, both of which will require additional time.

The current SHEL WQOs are based on commercial shellfish harvesting regulations, under the authority of the Public Health Service Act (42 U.S.C. § 201 et seq.) and the Federal Food Drug and Cosmetic Act (21 U.S.C. 301 et seq.), to ensure food safety in interstate commerce. Santa Ana Water Board staff relied on these regulations to develop the WQOs for SHEL for the 1995 Basin Plan. However, in later years, staff investigated the source of and rationale behind the SHEL WQOs and determined that further studies were needed to verify whether these WQOs were appropriate for recreational shellfish harvesting in Newport Bay.

The shellfish harvesting regulations staff relied upon for the 1999 Fecal Coliform TMDLs were originally developed in 1925 (as the National Shellfish Sanitation Program) to identify potential direct sewage contamination of commercial shellfish beds. The National Shellfish Sanitation Program implied at that time that both the activities of commercial shellfish aquaculture operations and public recreational shoreline shellfish harvesting are the same shellfish harvesting beneficial use, even though they are physically different activities and should be regulated separately (California Ocean Plan § I.A.). Recreational shellfish harvesting is not regulated under federal law, and neither the Federal Food Drug and Cosmetic Act nor the Clean Water Act directly refer to recreational harvesting of shellfish for personal consumption as a regulated activity. Recreational shellfish harvesting occurs on the shoreline and is limited to manual collection by permitted individuals under the regulations of the California Fish and Game Code. The California Shellfish Protection Act of 1993 (Water Code, §§ 14950-14958) only refers to commercial shellfish harvesting as a beneficial use and does not refer to recreational shellfish harvesting.

To determine the appropriate SHEL WQOs that should be applied to recreational shellfish harvesting in Newport Bay, Santa Ana Water Board staff believes that an eight-year extension of the attainment date for the SHEL beneficial use, until December 31, 2030, is appropriate for the reasons provided below.

## **Discussion**

The Santa Ana Water Board is a key participant in a stakeholder effort to investigate bacteria levels and sources in Newport Bay and to implement control measures by the Orange County TMDL Funding Partners (consisting of the County of Orange, Orange County Flood Control District, and the Cities of Tustin, Irvine, Laguna Hills, Laguna Woods, Costa Mesa, Santa Ana, Orange, Lake Forest, Newport Beach, Irvine Ranch Water District, and The Irvine Company) to improve Newport Bay's water quality.

In 2019, Santa Ana Water Board staff and Orange County TMDL Funding Partners coordinated with the Southern California Coastal Water Research Project (SCCWRP) to conduct a [study](#) that examined the applicability of the current fecal coliform WQOs for SHEL during the dry season by deploying Pacific oysters at twelve (12) sites within Newport Bay over a six-week period from August to September 2019. After the oysters were harvested at different time periods, the shellfish tissue was measured for fecal indicator bacteria and viral pathogens. Because there currently are no standardized

analytical methods for measuring *Enterococcus* in shellfish tissue, fecal indicator bacteria were analyzed and included *E. coli*, fecal coliform, and male-specific coliphages (MSC), a potential proxy for the presence of viral pathogens and sewage contamination in shellfish. Digestive glands from the oysters were prepared and analyzed for enumeration of norovirus (NoV) GI and GII, human adenovirus (HAdV), and HF 183 human marker. The study did not find a correlation between fecal coliform levels in the water, upon which the current SHEL WQOs are based, or the presence of pathogen (NoV GI or GII and HAdV) and human molecular markers (MSC and HF 183) in oyster tissues.

Since no correlation was found between the SHEL WQOs in Newport Bay and the presence of pathogens and human molecular markers in the deployed oysters during the dry season, Santa Ana Water Board staff, Orange County TMDL Funding partners, and SCCWRP will be conducting a second study that examines the WQOs for SHEL during the wet season. The timeframe for this study is anticipated to begin during the upcoming 2022-2023 wet season and could continue for two to three years before SCCWRP finalizes the results and technical report. The reason for the timeframe is because of the uncertainty in the timing and amount of potential Santa Ana Water Board funding that may be available to supplement the wet season study, which is also being supported by additional funding by the Orange County TMDL Funding Partners, and the necessity for multiple measurable rain events. Since rain events are unpredictable, and the need for multiple rain events is necessary for the study to be scientifically defensible, the sampling portion of the study alone could take more than one or two years to complete before any analysis of the data could be completed.

Note that the dry season SHEL study began with preparatory work that started in May 2019, followed by sampling later that year, but the results were not finalized until November 2021 because of the time needed to process samples, analyze data, and write and revise the final report. The dry season SHEL study was only phase one of a larger study that requires additional time and funds to complete.

The results from both the dry and wet season SHEL studies will assist in determining the scientific validity of the current SHEL WQOs. As noted earlier, the dry season SHEL study did not find a correlation between the WQOs for SHEL and the presence of pathogens and human molecular markers in the deployed oysters. If the wet season SHEL study results in a similar conclusion, site-specific objectives (SSOs) may need to be developed to replace the current SHEL WQOs in the Basin Plan, which would no longer be scientifically supported. Developing and adopting SSOs for pathogen indicator bacteria in Newport Bay to replace the current SHEL WQOs in the Basin Plan is a lengthy process that could take at least four to five years to complete. The SSOs will be designed to incorporate the best available scientific information on appropriate WQOs for pathogen indicator bacteria concentrations in shellfish tissue in Newport Bay. A plan and schedule to implement these objectives to prevent any future increases in pathogen concentrations in shellfish will also be developed as part of the SSO process and incorporated into revised bacteria/pathogen TMDLs for Newport Bay.

Although control measures have not been placed to specifically address potential bacteriological impacts on SHEL, the Santa Ana Water Board did adopt, on December 6, 2019, Time Schedule Order (TSO) [R8-2019-0050](#) so the Orange County TMDL Funding Partners (County, Flood Control, and Cities) could achieve compliance with the wasteload allocations for fecal coliform in the Orange County Municipal Separate Storm Sewer System (MS4) Permit for the protection of the water contact recreation (REC-1) beneficial use. The TSO includes a compliance schedule to install, implement, and maintain Best Management Practices (BMPs) and control measures in Newport Bay. The completed structural BMP projects outlined in the TSO, include the Hoag Drain and Arches diversion project, Newport Bay bilge pump installation project, Newport Dunes diversion revision project, East Costa Mesa Channel diversion project, and the Santa Isabel Channel diversion project. Implementation of these BMPs should result in reductions of indicator bacteria for both REC and SHEL beneficial uses. In addition, in March 2022, the Orange County TMDL Funding Partners began a bacteriological source investigation study in Newport Bay, as outlined in the TSO.

Santa Ana Water Board staff participated in four professionally facilitated meetings, conducted by Participation by Design, with the Orange County TMDL Funding Partners and Orange County Coastkeeper to discuss the Basin Plan amendment for the extension of the attainment date for the SHEL beneficial use. These meetings were virtually held on August 16, 2021, September 9, 2021, September 29, 2021, and October 20, 2021. A possible eight-year extension was first discussed at the initial meeting in August as a compromise between the ten-year timeframe that Santa Ana Water Board staff thought was needed and Orange County Coastkeeper's desire for a much shorter timeframe to complete the necessary shellfish studies and revise the Fecal Coliform TMDLs. Santa Ana Water Board staff and the Orange County TMDL Funding Partners were amenable to this timeframe. At the second meeting, Orange County Coastkeeper shared a preference for a five-to-six-year extension instead. Santa Ana Water Board staff explained that their preference was for a ten-year extension but that eight years may be sufficient to conduct the wet season SHEL study and develop SSOs for Newport Bay (if needed) and revise the Fecal Coliform TMDLs. At the third meeting, Orange County Coastkeeper stated they were amenable to a longer extension timeframe with a possible interim standard. Santa Ana Water Board staff stated they would discuss this internally and at the last meeting, Santa Ana Water Board staff stated the interim standard would require a lengthy justification, with peer-reviewed scientific studies, that was not possible before the current December 31, 2022 attainment deadline. The eight-year extension was the reasonable option between six and ten years.

Overall, an eight-year extension is reasonable based on the various steps needed to determine the appropriateness of the SHEL WQOs and modify them through a Basin Plan amendment. Facilitated discussions have been held with the Orange County TMDL Funding Partners, Orange County Coastkeeper, and Santa Ana Water Board staff to determine the length of time needed, what studies would assist in evaluating these WQOs, and the process and actions required to move forward with improving the water quality in Newport Bay.

## **California Environmental Quality Act (CEQA) Requirements**

The California Natural Resources Agency has certified the basin planning process of the State Water Resources Control Board (State Water Board) and Regional Water Quality Control Boards (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 Santa Ana Water Board adopted the Substitute Environmental Document (SED) for the Fecal Coliform TMDLs under Resolution No. R8-1999-0010 and for the revised attainment schedule for the Fecal Coliform TMDLs under Resolution No. R8-2017-0019. None of the revisions to the attainment schedule for the Fecal Coliform TMDLs for the SHEL beneficial use will result in any new significant environmental effects not disclosed in the prior SEDs. Further, there are no changes in circumstances or new information that would otherwise warrant any subsequent or supplemental environmental review under Public Resources Code section 21166 or CEQA Guidelines sections 15162 or 15163.

An extension of the attainment schedule for the SHEL beneficial use will not necessitate new or revised control actions that might have an adverse impact on the environment. Control actions, as noted above, are already in place and planned to address the established Fecal Coliform TMDLs. The Santa Ana Water Board has, therefore, determined that the prior SEDs adequately address the potential environmental impacts of the revised attainment schedule for the Fecal Coliform TMDLs for the SHEL beneficial use, as revised, and no further environmental review is necessary.

## **Office of Administrative Law Review**

The Office of Administrative Law (OAL) is responsible for reviewing regulations proposed by state agencies to ensure that they are clear, necessary, legally valid, and available to the public. (Gov. Code, § 11340 et seq.) OAL is also responsible for transmitting these regulations to the Secretary of State and for publishing regulations in the California Code of Regulations. Following State Water Board approval of this Basin Plan amendment, any regulatory portions of the amendment must be approved by OAL. (Gov. Code, § 11353.) The State Water Board must include in its submittal to OAL a summary of the necessity for the regulatory provision. (Gov. Code, § 11353(b).) The extension of the attainment schedule for the SHEL beneficial use is necessary to provide sufficient time to conduct the wet season SHEL study with SCCWRP, develop new TMDLs for the SHEL beneficial use in Newport Bay, and/or develop SSOs for the SHEL beneficial use in Newport Bay.

## **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 Boards. The scientific basis is the foundation of a rule that it 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.) The revisions proposed to the attainment schedule for the Fecal Coliform TMDLs do not change their underlying scientific basis. The amendment, therefore, does not include any new scientific elements requiring independent, external scientific peer review.

## **Recommendation**

Due to the time needed to conduct the wet season SHEL study with SCCWRP, develop new TMDLs for the SHEL beneficial use in Newport Bay, and/or develop SSOs for the SHEL beneficial use in Newport Bay, extending the attainment schedule for the Fecal Coliform TMDLs for the SHEL beneficial use is appropriate. Santa Ana Water Board staff believes that an eight-year extension, until December 31, 2030, should provide sufficient time to complete these projects.

Staff recommends the Santa Ana Water Board adopt Resolution No. R8-2022-0017 as presented.

## **References**

Santa Ana Regional Water Quality Control Board. 2019. Water Quality Control Plan for the Santa Ana River Basin.

Santa Ana Regional Water Quality Control Board. 2019. Time Schedule Order Number [R8-2019-0050](#) for the County of Orange, the Orange County Flood Control District, and the Cities of Tustin, Irvine, Laguna Hills, Laguna Woods, Costa Mesa, Santa Ana, Orange, Lake Forest, and Newport Beach to comply with the Requirements Prescribed in Order Number R8-2010-0062 (NPDES Permit Number CAS618030).

State Water Resources Control Board. 2019. Water Quality Control Plan for Ocean Waters of California.

Zimmer-Faust A, Griffith J, Freshwater J, Peng J, Goong S, Weisberg S. 2022. Relationships between indicators and pathogens in shellfish and water in Newport Bay, CA. Final Report prepared by the Southern California Coastal Water Research Project, State Water Resources Control Board Agreement Number 18-025-180. [SCCWRP Technical Report 1193](#)



State of California  
California Regional Water Quality Control Board  
Santa Ana Region

RESOLUTION NO. R8-2022-0017

Approving Amendment to the Water Quality Control Plan for the Santa Ana River Basin  
to Revise the Schedule for Attaining the Fecal Coliform Total Maximum Daily Loads for  
the Shellfish Harvesting Beneficial Use in Newport Bay

**WHEREAS**, the California Regional Water Quality Control Board, Santa Ana Region (hereinafter Santa Ana Water Board), find that:

1. The Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) is the central document outlining the Santa Ana 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 surface waters and groundwater, water quality objectives to protect those beneficial uses, and implementation programs to achieve the water quality objectives.
2. The current Basin Plan was adopted by the Santa Ana Water Board on March 11, 1994 and approved by the State Water Resources Control Board (State Water Board) on July 21, 1994. The Basin Plan was approved by the Office of Administrative Law (OAL) and became effective on January 24, 1995. The Basin Plan has been subsequently amended to incorporate Total Maximum Daily Loads (TMDLs), authorize the inclusion of attainment schedules in National Pollutant Discharge Elimination System (NPDES) permits, and include other changes.
3. In 1999, the Santa Ana Water Board established Fecal Coliform TMDLs for Newport Bay to protect the Shellfish Harvesting (SHEL) beneficial use. These TMDLs include wasteload and load allocations and an implementation plan to assure attainment of water quality objectives.
4. On June 16, 2017, the Santa Ana Water Board approved an amendment to the Fecal Coliform TMDLs to revise the attainment date for meeting the SHEL water quality objectives from December 30, 2019 to December 31, 2022. The amendment was adopted pursuant to Resolution No. R8-2017-0019 and approved by the State Water Board on June 16, 2017.
5. The Basin Plan amendment adopted through this Resolution would further extend the attainment date for the Fecal Coliform TMDLs to December 31, 2030, in Table 6-1f of the Basin Plan, as well as include other non-substantive, editorial

changes for clarity in Chapter 6, Section 3.a of the Basin Plan, which discusses the Fecal Coliform TMDLs. Staff of the Santa Ana Water Board has prepared a staff report that describes the amendment, as well as the specific necessity and rationale for its adoption.

6. The amendment was developed in accordance with Water Code section 13240 et seq. and meets the “necessity” standard of the Administrative Procedure Act in Government Code section 11353, subdivision (b)(2)(C). The amendment is necessary to allow sufficient time for additional studies to be completed to determine whether the current water quality objectives for fecal coliform are scientifically supportable. A preliminary study determined that the current water column-based objectives used in the TMDLs do not correlate with fecal coliform, other fecal indicator bacteria, or viral pathogens in shellfish tissue under dry weather conditions. Following completion of additional studies, the Santa Ana Water Board may need to develop site-specific objectives for and/or new TMDLs to protect the SHEL beneficial use in Newport Bay. The amendment is needed so that there is sufficient time to consider, formulate, and complete projects to assess the appropriateness of the water quality objectives.
7. The 1999 Fecal Coliform TMDLs numeric targets are based on the water quality objectives for bacteria that were established in the 1995 Basin Plan. Those water quality objectives are in turn based on the total coliform objectives specified for body contact recreation in the California Health and Safety Code regulations (Cal. Code of Regs., tit. 17, §§ 7957, 7958) and the U.S. Public Health Service criteria for shellfish harvesting. The proposed revision to the attainment schedule of the TMDLs does not change the underlying scientific basis of these water quality objectives and the amendment, therefore, does not include any new scientific elements requiring independent, external scientific peer review. (See Health & Safety Code, § 57004.)
8. Pursuant to Public Resources Code section 21080.5, the California Natural Resources Agency has approved the basin planning process of the State Water Board and Regional Water Quality Control Boards as a “certified regulatory program” that satisfies California Environmental Quality Act (CEQA; Public Resources Code section 21000, et seq.) requirements for preparing environmental documents. (14 Cal. Code Regs. § 15251, subd. (g).) The Santa Ana Water Board adopted a Substitute Environmental Document (SED) for the Fecal Coliform TMDLs under Resolution No. R8-1999-0010 and for the first revised attainment schedule under Resolution No. R8-2017-0019. None of the revisions from the amendment adopted through this Resolution will result in any new significant environmental effects not disclosed in the prior SEDs. Further, there are no changes in circumstances or new information that would otherwise warrant any subsequent or supplemental environmental review under Public Resources Code section 21166 or CEQA Guidelines sections 15162 or 15163.

9. In amending the Basin Plan, the Santa Ana Water Board considered Water Code sections 13240 through 13242.
10. The public has had reasonable opportunity to participate in review and adoption of the Basin Plan amendment. A draft of the amendment and supporting documents were circulated to interested parties for a 30-day comment period, and the Santa Ana Water Board held a public hearing on June 3, 2022, to consider adoption of the amendment. The Santa Ana Water Board considered all testimony offered at the hearing and the written comments submitted by interested parties before taking final action on this Resolution.
11. Following adoption by the Santa Ana Water Board, the Basin Plan amendment and associated administrative record must be submitted for review and approval by the State Water Board and OAL. The Basin Plan amendment will become effective upon approval by OAL.

**THEREFORE, BE IT RESOLVED THAT:**

1. The Santa Ana Water Board has reviewed and considered the entire record of this matter, including the information contained in the staff report, all written comments, and all oral testimony provided at the public hearing of this matter held on June 3, 2022.
2. Pursuant to Water Code section 13240 et seq., the Santa Ana Water Board hereby adopts the Basin Plan amendment delineated in Attachment 1 (underline/strike-out version) and Attachment 2 ("clean" version) to this Resolution.
3. The Executive Officer is directed to submit the Basin Plan amendment to the State Water Board in accordance with Water Code section 13245.
4. The Santa Ana Water Board requests that the State Water Board approve the Basin Plan amendment in accordance with Water Code sections 13245 and 13246 and, thereafter, forward the amendment to OAL for its approval and to the United States Environmental Protection Agency for informational purposes.
5. The Executive Officer shall request that the State Water Board, on behalf of the Santa Ana Water Board, file a Notice of Decision with the California Natural Resources Agency and the Governor's Office of Planning and Research after approval by OAL.
6. The Executive Officer is directed, at the time of filing and posting the Notice of Decision, to take steps to promptly ensure payment of the applicable fee to the Department of Fish and Wildlife for its review of the Basin Plan amendment to extend the attainment date for the SHEL portion of the Fecal Coliform TMDLs or to file a Certificate of Fee Exemption, whichever is appropriate.

7. If during the approval process, Santa Ana Water Board staff, the State Water Board, or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes and shall inform the Santa Ana Water Board of any such changes.

I, Jayne Joy, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Santa Ana Region on June 3, 2022.

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Jayne Joy, P.E.  
Executive Officer

## Attachment 1

### Proposed Basin Plan Amendments (strikeout/bold-underline version)

These amendments are proposed to be incorporated in the Basin Plan in Chapter 6 Total Maximum Daily Loads (TMDLs).

In the text and tables that follow, added language is underlined and bolded; deleted language is shown in strikeout type. Attachment 2 provides a clean version, showing how the amendments would appear in the Basin Plan.

### Amend CHAPTER 6 TOTAL MAXIMUM DAILY LOADS (TMDLs)

#### Newport Bay Watershed

##### 3.a. FECAL COLIFORM TMDLs

A prioritized, phased approach is specified in these TMDLs to the control of address pathogen indicator bacterial quality bacteria in both Upper and Lower Newport Bay (Bay) ~~the Bay is specified in this TMDL~~. This approach is appropriate, given the complexity of the problem, the paucity of relevant data on ~~bacterial~~ bacteriological sources and fate, the expected difficulties in identifying and implementing appropriate control measures, and uncertainty regarding the nature and attainability of the shellfish (SHEL) beneficial use in the Bay. The phased approach is intended to allow for additional monitoring and assessment to address areas of uncertainty and for future revision and refinement of the TMDLs as warranted by these studies based on new data and information.

Table 6-1f summarizes the TMDLs, including Waste Load Allocations (WLAs) for point sources of fecal coliform inputs and Load Allocations (LAs) for nonpoint source inputs. As shown, the TMDLs, WLAs, and LAs are established to assure compliance with water contact recreation (REC-1) standards no later than December 30, 2014, and with ~~shellfish~~ SHEL standards no later than ~~December 31, 2022~~ December 31, 2030. WLAs are specified for vessel waste and urban runoff, including stormwater, the quality of which is regulated under a County-wide NPDES permit issued by the ~~Regional~~ Santa Ana Water Board. This runoff is thus regulated as a point source, even though it is diffuse in origin. LAs are specified for fecal coliform inputs from agricultural runoff, including stormwater, and natural sources. The TMDLs is/are to be adjusted, as appropriate, based upon completion of the studies contained in Table 6-1g. Upon completion of these studies, an updated TMDL report will be prepared summarizing the results of the studies and making recommendations regarding implementation of the TMDLs. The results of the studies may lead to recommendations for changes to the

TMDLs specified in Table 6-1f to assure compliance with existing Basin Plan standards (objectives and beneficial uses). The study results may also lead to recommendations for changes to the Basin Plan objectives and/or beneficial uses. If such standards changes are approved through the Basin Plan amendment process, then appropriate changes to the TMDLs would be required to assure attainment of the revised standards. Revision of the TMDLs, if appropriate, would also be considered through the Basin Plan amendment process.

Upon completion and consideration of the studies and any appropriate Basin Plan amendments, a plan for ~~compliance with~~ **attainment of** the TMDLs specified in Table 6-1f, or with an approved ~~amended~~ **revised** TMDLs, will be established. It is expected that this plan will specify a phased compliance approach, based on consideration of such factors as geographic location, the priority assigned by the ~~Regional~~ **Santa Ana Water** Board to specific locations for control actions (see Section 3.a.ii, "Beneficial Use Assessment"), season, etc. Interim WLAs, LAs, and compliance dates that lead to ultimate compliance with the TMDLs will be established.

The TMDLs and ~~its~~ allocations contain a significant margin of safety. The margin of safety can be either incorporated implicitly through analytical approaches and assumptions used to develop the TMDLs or added explicitly as a separate component of the TMDLs. A substantial margin of safety is implicitly incorporated in the TMDLs ~~in the fact that~~ **as** the TMDLs does not apply criteria for dilution, natural die-off, and tidal flushing. The TMDLs, WLAs, and LAs are established at concentrations equivalent to the water quality objectives.

(The following table was updated under Resolution Nos. R8-2017-0019 and R8-2022-0017)

**Table 6-1f: Total Maximum Daily Loads, Waste Load Allocations, and Load Allocations for Fecal Coliform in Newport Bay**

Total Maximum Daily Loads for Fecal Coliform in Newport Bay	Waste Load Allocations for Fecal Coliform in Urban Runoff, including Stormwater, Discharges to Newport Bay	Load Allocations for Fecal Coliform in Agricultural Runoff, including Stormwater, Discharges to Newport Bay	Load Allocations for Fecal Coliform from Natural Sources in All Discharges to Newport Bay	Waste Load Allocations for Vessel Waste
<b>REC-1 Standards: As soon as possible but no later than December 30, 2013</b>			<b>In Effect</b>	<b>In Effect</b>
5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	5-Sample/30-days Geometric Mean less than 200 organisms/ 100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	0 MPN/100 mL No discharge.
<b>SHEL Standards: As soon as possible but no later than <del>December 31, 2022</del> December 31, 2030</b>			<b>In Effect</b>	<b>In Effect</b>
Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	0 MPN/100 mL No discharge.

## Attachment 2

### **Proposed Basin Plan Amendments (“clean” version)**

These amendments are proposed to be incorporated in the Basin Plan in Chapter 6 Total Maximum Daily Loads (TMDLs).

Attachment 1 shows the proposed amendments using strikeout/bold-underline format.

### **Amend CHAPTER 6 TOTAL MAXIMUM DAILY LOADS (TMDLs)**

#### **Newport Bay Watershed**

##### **3.a. FECAL COLIFORM TMDLS**

A prioritized, phased approach is specified in these TMDLs to address pathogen indicator bacteria in both Upper and Lower Newport Bay (Bay). This approach is appropriate, given the complexity of the problem, the paucity of relevant data on bacteriological sources and fate, the expected difficulties in identifying and implementing appropriate control measures, and uncertainty regarding the nature and attainability of the shellfish (SHEL) beneficial use in the Bay. The phased approach is intended to allow for additional monitoring and assessment to address areas of uncertainty and for future revision and refinement of the TMDLs based on new data and information.

Table 6-1f summarizes the TMDLs, including Waste Load Allocations (WLAs) for point sources of fecal coliform inputs and Load Allocations (LAs) for nonpoint source inputs. As shown, the TMDLs, WLAs, and LAs are established to assure compliance with water contact recreation (REC-1) standards no later than December 30, 2014, and with SHEL standards no later than December 31, 2030. WLAs are specified for vessel waste and urban runoff, including stormwater, the quality of which is regulated under a County-wide NPDES permit issued by the Santa Ana Water Board. This runoff is thus regulated as a point source, even though it is diffuse in origin. LAs are specified for fecal coliform inputs from agricultural runoff, including stormwater, and natural sources. The TMDLs are to be adjusted, as appropriate, based upon completion of the studies contained in Table 6-1g. Upon completion of these studies, an updated TMDL report will be prepared summarizing the results of the studies and making recommendations regarding implementation of the TMDLs. The results of the studies may lead to recommendations for changes to the TMDLs specified in Table 6-1f to assure compliance with existing Basin Plan standards (objectives and beneficial uses). The study results may also lead to recommendations for changes to the Basin Plan objectives and/or beneficial uses. If such standards changes are approved through the



Basin Plan amendment process, then appropriate changes to the TMDLs would be required to assure attainment of the revised standards. Revision of the TMDLs, if appropriate, would also be considered through the Basin Plan amendment process.

Upon completion and consideration of the studies and any appropriate Basin Plan amendments, a plan for attainment of the TMDLs specified in Table 6-1f, or with approved revised TMDLs, will be established. It is expected that this plan will specify a phased compliance approach, based on consideration of such factors as geographic location, the priority assigned by the Santa Ana Water Board to specific locations for control actions (see Section 3.a.ii, "Beneficial Use Assessment"), season, etc. Interim WLAs, LAs, and compliance dates that lead to ultimate compliance with the TMDLs will be established.

The TMDLs and allocations contain a significant margin of safety. The margin of safety can be either incorporated implicitly through analytical approaches and assumptions used to develop the TMDLs or added explicitly as a separate component of the TMDLs. A substantial margin of safety is implicitly incorporated in the TMDLs as the TMDLs do not apply criteria for dilution, natural die-off, and tidal flushing. The TMDLs, WLAs, and LAs are established at concentrations equivalent to the water quality objectives.

(The following table was updated under Resolution Nos. R8-2017-0019 and R8-2022-0017)

Table 6-1f: Total Maximum Daily Loads, Waste Load Allocations, and Load Allocations for Fecal Coliform in Newport Bay

Total Maximum Daily Loads for Fecal Coliform in Newport Bay	Waste Load Allocations for Fecal Coliform in Urban Runoff, Including Stormwater, Discharges to Newport Bay	Load Allocations for Fecal Coliform in Agricultural Runoff, Including Stormwater, Discharges to Newport Bay	Load Allocations for Fecal Coliform from Natural Sources in All Discharges to Newport Bay	Waste Load Allocations for Vessel Waste
<b>REC-1 Standards: As soon as possible but no later than December 30, 2013</b>			<b>In Effect</b>	<b>In Effect</b>
5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	5-Sample/30-days Geometric Mean less than 200 organisms/ 100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	5-Sample/30-days Geometric Mean less than 200 organisms/100 mL, and not more than 10% of the samples exceed 400 organisms/ 100 mL for any 30-day period.	0 MPN/100 mL No discharge.
<b>SHEL Standards: As soon as possible but no later than December 31, 2030</b>				<b>In Effect</b>
Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	Monthly Median less than 14 MPN/100 mL, and not more than 10% of the samples exceed 43 MPN/100 mL.	0 MPN/100 mL No discharge.