



CENTRAL COAST REGIONAL  
WATER QUALITY CONTROL BOARD

CLEAN WATER ACT  
SECTIONS 303(d) LIST AND 305(b) REPORT  
INTEGRATED REPORT  
FOR THE CENTRAL COAST REGION

DRAFT  
SUMMARY REPORT

*August 2016*



CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY



State of California  
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California Environmental Protection Agency  
Mathew Rodriguez, *Secretary for Environmental Protection*

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## List of Acronyms and Abbreviations

List of acronyms and abbreviations used in the development of this report and the fact sheets.

303(d) List	Clean Water Act Section 303(d) List of Water Quality Limited Segments
305(b) Report	Clean Water Act Section 305(b) Water Quality Condition Report
Basin Plan	Water Quality Control Plan for the Central Coast Region
BPTCP	Bay Protection and Toxic Cleanup Program
BMI	Benthic Macro Invertebrates
CalWQA	California Water Quality Assessment (database)
CCAMP	Central Coast Ambient Monitoring Program
CCC	Criteria Continuous Concentration
CCR	California Code of Regulations
CDPH	California Department of Public Health
CFR	Code of Federal Regulations
CMC	Criteria Maximum Concentration
CSCI	California Stream Condition Index
CTR	California Toxics Rule
CWA	Clean Water Act
°C	degrees Celsius
°F	degrees Fahrenheit
FED	Functional Equivalent Document
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
DFW	California Department of Fish and Wildlife, formerly California Department of Fish and Game (DFG)
DO	Dissolved oxygen
dw	dry weight
ERM	Effects Range Median
HCH	Hexachlorocyclohexane
HSA	Hydrologic Sub Area
HU	Hydrologic Unit
IBI	Index of Biological Integrity
ILRP	Irrigated Lands Regulatory Program
IR	Integrated Report
kg	kilogram(s)
Listing Policy	Water Quality Control Policy for Developing California's Section 303(d) List
LOE	Line of Evidence
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
mg/kg	milligrams per kilogram (parts per million)
mg/L	milligrams per liter (parts per million)
µg/g	micrograms per gram (parts per million)
µg/L	micrograms per liter (parts per billion)
MTBE	Methyl tertiary-butyl ether
MTRL	Maximum Tissue Residue Level
NAS	National Academy of Sciences
ng/g	nanograms per gram (parts per billion)
ng/L	nanograms per liter (parts per trillion)
NNE	Nutrient Numeric Endpoint
NOAA	National Oceanic and Atmospheric Administration

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NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit
oc	organic carbon
OEHHA	Office of Environmental Health Hazard Assessment
PAH	Polynuclear aromatic hydrocarbon
PBDE	Polybrominated diphenyl ethers
PCB	Polychlorinated biphenyl
PEL	Probable Effects Level
pg/L	picograms per liter
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RBI	Relative Benthic Index
RL	Reporting Level
SFEI	San Francisco Estuary Institute
SMWP	State Mussel Watch Program
SQG	Sediment quality guideline
SWAMP	Surface Water Ambient Monitoring Program
TDS	Total Dissolved Solids
TIE	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
TSMP	Toxic Substance Monitoring Program
TSS	Total Suspended Solids
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
WDR	Waste Discharge Requirement
WQO	Water quality objective
WQS	Water quality standard
ww	wet weight

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## Executive Summary

Please see [Staff Report](#).

## Introduction

The federal Clean Water Act (CWA) gives states the primary responsibility for protecting and restoring surface water quality. In California, the State Water Quality Control Board (State Water Board) and nine Regional Water Quality Control Boards (Regional Water Boards), collectively referred to as the California Water Boards, serve as the agencies with the primary responsibility for implementing CWA requirements. One such responsibility includes developing and implementing programs to ensure attainment of water quality standards. Water quality standards, pursuant to the CWA, consist of designated beneficial uses of waterbodies and criteria or objectives (numeric and narrative) which are protective of those beneficial uses.

Section 305(b) of the CWA requires each state to report biennially to the United States Environmental Protection Agency (USEPA) on the water quality conditions of its surface waters (the 305(b) Report). Although the 305(b) Report does not require Water Board or USEPA approval, USEPA compiles the state's assessment reports into their biennial "National Water Quality Inventory Report" to Congress.

Under CWA Section 303(d), states are required to develop, update, and submit to the USEPA for approval, a list of waterbody segments (water segments) not meeting water quality standards. Under Title 40 Code of Federal Regulations (CFR) Section 130.7(d)(1), states are required to submit the List biennially. This List is commonly referred to as the "303(d) List" or the "List of Impaired Waters." The List is compiled consistent with the [Water Quality Control Policy for Developing California's Clean Water Act Section 303\(d\) List](#), commonly referred to as the

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Listing Policy (SWRCB, 2004, amended 2015). Pursuant to Section 6.2 of the Listing Policy, waterbodies proposed for the 303(d) List, require public review and approval by the Regional Water Board during a public Board hearing and are then submitted to the State Water Board for compiling into the California 303(d) List. Water segments placed on the 303(d) List must be addressed through the development of Total Maximum Daily Loads (TMDLs), or an existing regulatory program that is reasonably expected to result in the attainment of the water quality standard within a specified timeframe.

In conformance with USEPA guidance (USEPA, 2005), the State and Regional Water Quality Control Boards prepare a single Integrated Report that meets the reporting requirements of CWA Sections 303(d) and 305(b). This summary report provides background on the assessment process and summarizes Central Coast Water Board staff's recommended updates to the California 303(d) List (Appendix A) and 305(b) Report (Appendices B-G).

## Background

The Central Coast Water Board last approved changes to the 303(d) List on July 10, 2009 (referred to hereafter as the 2008/2010 303(d) List). This List was then approved by the State Water Board on August 4, 2010 and partially approved by The USEPA on November 12, 2010. The USEPA gave final approval of the 2008/2010 List on October 11, 2011.

## The Listing Policy

In California, recommendations to place a water segment on the 303(d) List are made in conformance with the [Listing Policy](#) (SWRCB, 2004, amended 2015). The Listing Policy establishes a standardized approach for developing California's 303(d) List. It outlines the rules for making listing decisions based upon different types of data and establishes a systematic framework for statistical analysis of water quality data. The Listing Policy also establishes requirements for data quality, data quantity, and administration of the listing process. Listing and de-listing factors are provided for chemical-specific water quality standards; bacterial water quality standards; health advisories; bioaccumulation of chemicals in aquatic life tissues; nuisance such as trash, odor, and foam; nutrients; water and sediment toxicity; adverse biological response; degradation of aquatic life populations and communities; trends in water quality; and weight of evidence. The "weight of evidence" approach considers multiple types of data and information in the absence of data numeric criteria.

The Listing Policy requires the water quality assessments and listing decisions for specific waterbody segment and pollutant combinations (referred to hereafter as water segment/pollutant combinations) to be documented in "fact sheets." Fact sheets consist of "Lines of Evidence" (LOEs) summarizing the applicable standards and the data for a water segment in relation to a specific beneficial use. Staff then recommends "decisions" regarding listing based on beneficial use support (e.g. list, do not list, etc). The 5430 fact sheets supporting the 2014 Integrated Report for waters in the Central Coast Region are provided in Appendix H.

Pursuant to Section 6.2 of the Listing Policy, changes to the 303(d) List, require public review and approval by the Regional Water Board during a public hearing and are then by the State Water Board.

## State-wide Assessment Process and Timeline

State Water Board staff initiated the data solicitation process for the current assessment (the 2014 Integrated Report) in January of 2010. At the close of the solicitation period (August 2010), State Water Board staff began data assessment and development of LOEs. Due to the volume of data and diversity of data types, the State Water Board staff could not complete assessments for all nine regions with existing resources under the two-year timeline.

The State Water Board issued a memo on November 12, 2013, defining a new strategy for completing the assessment for those data solicited from the public in 2010 (SWRCB, 2013). This strategy established three groups, each group consisting of three Regional Water Boards and each group submitting an Integrated Report each assessment cycle (Table 1). Consequently, the 2012 Integrated Report contained new assessments for water segments located within the boundaries of three Regional Water Boards: North Coast, Lahontan and Colorado River Water Boards. The Central Coast Region is included in the second group and the 2014 assessment cycle. This memo also stated that the State Water Board would not solicit additional data until all of the data received during the 2010 solicitation is assessed and the Integrated Reports for all nine Regional Water Boards have been approved. Therefore, the Central Coast Water Board's recommendations for the 2014 Integrated Report are based on data collected prior to August 2010.

On July 30, 2015, USEPA gave final approval to the 2012-303(d) List (including new recommendations for North Coast, Lahontan and Colorado River Water Boards only). In September 2015, State Water Board staff released the State's assessment database to group 2 and Central Coast Water Board staff began working on the fact sheets for water segments within the Central Coast Region.

Table 1. Reporting cycles for the nine Regional Water Boards.

<b>Integrated Report Cycle</b>	<b>Regional Water Board Groups</b>
2012 Integrated Report Approved by USEPA on July 30, 2015	North Coast Water Board Lahontan Water Board Colorado River Basin Water Board
2014 Integrated Report (in process)	Central Coast Water Board Central Valley Water Board San Diego Water Board
2016 Integrated Report	San Francisco Bay Water Board Los Angeles Water Board Santa Ana Water Board

After completing the 2014 Integrated Report, Central Coast Water Board staff is scheduled to develop the next Central Coast Region Integrated Report update in 2020. There is a significant amount of data available but not included in this current assessment because of the data solicitation cutoff date in 2010. All readily available data, defined as data in the State's database (The California Environmental Data Exchange Network or CEDEN), will be assessed in the next update of the Integrated Report for the Central Coast Region, in 2020. However, should staff

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identify high priority data before the 2020 assessment cycle, the three-group process is designed to allow for those Regional Water Boards that are “off cycle” to draft and submit fact sheets summarizing high priority changes to the 303(d) List during any assessment cycle.

## Current Water Quality Assessment Process

The water quality assessment process begins with the solicitation and evaluation of data collected from monitoring activities in the region. The data is analyzed in conformance with the Listing Policy to determine if a water segment is meeting or exceeding water quality standards. The determination of whether water quality standards are being met is based on developing LOEs, in which data are compared to objectives, criteria, and guidelines (protective limits) for each beneficial use. Then, for each water segment assessed, Water Board staff combines all data assessments into fact sheets and determines whether water quality standards are attained or not under the Listing Policy.

### Data Solicitation

Federal regulations in 40 CFR Section 130.7(b) (5) state that “Each state shall assemble and evaluate all existing and readily available water quality-related data and information” when developing the 303(d) List. Section 6.1.2.1 of the Listing Policy states: “Readily available data and information shall be solicited from any interested party, including but not limited to, private citizens, public agencies, state and federal governmental agencies, non-profit organizations, and businesses possessing data and information regarding the quality of the Region’s waters.” The State Water Board solicited data from the public with a formal [“Notice of Public Solicitation of Water Quality Data and Information for the California Integrated Report”](#) sent to interested parties subscribed to the statewide [Integrated Report e-mailing list](#) and the Central Coast Regions [Integrated Report e-mailing list](#). Data used for the 2014 Integrated Report were received January 14, 2010 through August 30, 2010. Data sources include government agencies, municipalities, environmental groups, citizen groups, and receiving water data from the National Pollutant Discharge Elimination System (NPDES) dischargers. Data collected by the Regional and State Water Boards under the Surface Water Ambient Monitoring Program (SWAMP), and by monitoring programs of the Irrigated Lands Regulatory Program, provided the majority of the data used to develop and revise fact sheets for the 2014 Integrated Report.

All data and information submitted are available as part of the electronic administrative record (Appendix J). Data and information pertaining to specific water segment/pollutant combination assessments are summarized in the fact sheets, which link directly to the original data files in the administrative record.

### Water Quality Standards Used in the Data Assessment

The CWA and federal regulations define water quality standards to include the designated uses of a water segment, the adopted water quality criteria, and the State’s Antidegradation Policy (State Water Resources Control Board Resolution No. 68-16, SWRCB 1968). Under state law (Porter-Cologne Water Quality Control Act, revised 2015), water quality standards include designated beneficial uses of waterbodies, criteria or water quality objectives (numeric or narrative limits) established to protect those beneficial uses, and policies to prevent or limit the degradation of waterbodies. The water quality standards for waterbodies in the Central Coast

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Region are primarily contained in the Water Quality Control Plan for the Central Coastal Basin (Basin Plan).

In Chapter 2 of the Basin Plan, beneficial uses are designated for all waters within the Central Coast Region. Beneficial uses are designated for most of the Central Coast Region's water segments in Table 2-1 of the Basin Plan. Alternatively, the Basin Plan states that "surface waterbodies within the Region that do not have beneficial uses designated for them in Table 2-1 [of the Basin Plan] are assigned the following designations: municipal and domestic supply, protection of both recreation and aquatic life uses." Therefore, any water segment that is not listed in Table 2-1 of the Basin Plan is, for the purposes of the Integrated Report assessment, designated the following specific beneficial uses: Municipal and Domestic Supply (MUN), Water Contact Recreation (REC-1), Non-contact Recreation (REC-2), Cold Freshwater Habitat (COLD), and Warm Freshwater Habitat (WARM).

Central Coast Water Board staff assessed data using regulatory limits when available. The most common regulatory limits used include water quality objectives in the Basin Plan or any statewide Water Quality Control Plan applicable to the water segment and criteria for toxic chemicals promulgated by the USEPA under the California Toxics Rule (40 CFR 131.27). When numeric regulatory limits were not available, evaluation guidelines were used to interpret narrative water quality objectives. Evaluation guidelines were selected in conformance with Section 6.1.3 of the Listing Policy.

All water quality objectives, criteria, and evaluation guidelines utilized in the 2014 Integrated Report assessment are available as part of the electronic administrative record (Appendix J). Water quality objectives, criteria, and evaluation guidelines are summarized in the fact sheets which link directly to the documentation containing these objectives, criteria, and guidelines in the administrative record.

## Data Analysis

State and Regional Water Board staff developed the LOEs for this assessment cycle in the California Water Quality Assessment (CalWQA) database. Staff developed one LOE for each data source, specific water segment, pollutant, and beneficial use combination. For example, one LOE would be developed for dissolved oxygen data collected by CCAMP in Big Sur River evaluated with the water quality objective for Cold Freshwater Habitat and a second LOE would be developed for that same data but evaluated with the water quality objective for Warm Freshwater Habitat. Each LOE contains a summary the pollutant sampled, the relevant beneficial use(s), the sampling entity, the number of samples collected, the number of samples that exceed the water quality objective or guideline, the location and time of sampling activity, and quality assurance documentation associated with the data. All LOEs also contain links to the administrative record (Appendix J) for the documents containing the water quality objective or guideline, the dataset, and the quality assurance information used in the assessment.

Staff aggregate data by water segment following the requirements of Section 6.1.5.4 of the Listing Policy. Staff revised the mapped extent of some water segments to account for hydrologic features and to more accurately identify water segments being addressed (Table 2). However, in some cases, changes to the mapped extent of a water segment resulted in recommendations to de-list one segment because the impaired reach is now specifically delineated. Of the 91 recommendations to "de-list," 22 are due to a mapping change where the listing was moved to another water segment. These changes, as well as non-substantive

modifications to water segments are summarized in the Miscellaneous Changes Report (Appendix I).

Table 2. Waterbodies re-segmented during the 2014 Integrated Report (IR) Cycle.

<b>2008/2010 IR Water Segment Name</b>	<b>Type of Change</b>	<b>New 2014 IR Water Segment Name</b>
Arroyo De La Cruz	Split into 2 segments	Arroyo De La Cruz (San Luis Obispo) and Arroyo De La Cruz Lagoon
Carpinteria Creek	Split into 2 segments	Carpinteria Creek (above Gobernador Creek) and Carpinteria Creek (below Gobernador Creek)
Glen Annie Canyon	Split into 2 segments	Glen Annie Canyon Creek and Tecolotito Creek
Los Osos Creek (Los Osos to Morro Bay)	Split into 3 segments	Los Osos Creek (upstream of Los Osos), Los Osos Creek (Los Osos to Estuary), and Los Osos Creek Estuary
Scott Creek	Split into 2 segments	Scott Creek (Santa Cruz County) and Scott Creek Lagoon
Waddell Creek	Split into 2 segments	Waddell Creek (Santa Cruz) and Waddell Creek Lagoon

All readily available data and information received during the public data solicitation period was considered in the development of the 2014 303(d) List. Due to the volume of information submitted and the limited resources available to assess that information, State Water Board and Central Coast Water Board staff prioritized assessment of data that are: a) included in the 303(d) List assessment (as opposed to those data that would only inform CWA Section 305(b) Categories 4c, 3, 2, and 1<sup>1</sup>), and b) are readily available (e.g. in spreadsheet formats that are compatible with the State's surface water database and assessment tools). Pursuant to Section 6.1.4 of the Listing Policy, only data supported by a Quality Assurance Project Plan, or equivalent documentation, was used to make determinations of water quality standards attainment. In the absence of quality assurance documentation, data was used only as supporting evidence and was not the sole basis of a listing decision.

Following development of LOEs, Central Coast Water Board staff determined whether or not the water segment was attaining relevant water quality standards under the Listing Policy. All LOEs for a water segment/pollutant combination (e.g. Salinas River and nitrate) were combined into a single fact sheet in the CalWQA database. Based on statistical evaluation described in the Listing Policy, staff determined if the total number of samples exceeding the water quality criteria constitutes a recommendation to either add or retain a water segment/pollutant combination on the 303(d) List. In the fact sheets, staff also made a determination of the beneficial use support rating to inform the categorization of water segments in the 305(b) Report.

<sup>1</sup>The 305(b) Water Quality Condition Report categorizes water segments into one of five Categories based on whether water quality standards are attained. Categories are explained in detail in the Integrated Report Categories section of this report.

## Determination of Beneficial Use Support

Determinations of the beneficial use support rating in the CalWQA database are based on the number of samples available for the assessment, the number of exceedances of the relevant water quality objective or guideline, and the minimum sample counts required to apply the binomial distribution (statistical test) defined in Sections 3.1, 3.2, 4.1, and 4.2 of the Listing Policy. Staff assigned a beneficial use rating as follows:

- Not Supporting - where the number of samples exceeding a water quality objective or evaluation guideline exceeds the allowable exceedance frequency defined in Sections 3.1, 3.2, 4.1, and 4.2 of the Listing Policy (e.g. 5 of the 25 samples exceed).
- Fully Supporting - where the minimum sample size, defined in Sections 3.1, 3.2, 4.1, and 4.2 of the Listing Policy, are available and demonstrate that water quality standards are attained (e.g. none of the 25 samples exceed).
- Insufficient Information - where the previous criteria are not met.

This conservative approach was taken by staff state wide to prevent waterbodies with insufficient sample counts from being classified as fully attaining standards.

## Integrated Report Categories

To meet CWA Section 305(b) requirements of reporting on water quality conditions, the Integrated Report places each assessed water segment into one of five non-overlapping categories based on the overall beneficial use support of the water segment. Definitions for each 305(b) Report Category is provided in Table 3.

Table 3. California 305(b) Report Category definitions and the number of Central Coast Region water segments placed in each Category.

Category	Description	Number of Segments
1	All assessed beneficial uses are supported and no beneficial uses are known to be impaired.	76
2	There is insufficient information to determine beneficial use support.	92
3	There is insufficient data and/or information to make a beneficial use support determination but information and/or data indicates beneficial uses may be potentially threatened.	0
4a	At least one beneficial use is not supported and a TMDL has been developed and approved by USEPA for all water segment/pollutant combinations and the implementation plan is expected to result in full attainment of the water quality standard within a specified time frame.	21
4b	At least one beneficial use is not supported and another regulatory program is reasonably expected to result in attainment of the water quality standard within a reasonable, specified time frame.	0
4c	At least one beneficial use is not supported but the non-attainment of any applicable water quality standard for the water segment is the result of pollution and is not caused by a pollutant.	0
5	At least one beneficial use is not supported and a TMDL is needed.	199

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In previous Integrated Report assessments, California used the following USEPA definition for Category 1 - "All designated uses are supported, no use is threatened." California interpreted this to mean "all core beneficial uses (Drinking Water Supply, Aquatic Life Support, Fish Consumption, and Recreation) are supported." This definition inadvertently resulted in no water segments in California being placed into Category 1, because none of those water segments had fish tissue data needed to evaluate the consumption uses. The lack of Category 1 waterbodies inaccurately represented California's overall water quality by giving the impression that California has no waters that support all designated beneficial uses, when in fact over 250 waterbodies are supporting the most sensitive designated beneficial uses. Consistent with USEPA recommendations on assessment for 305(b) Report Categories (USEPA 2005), states can alter those definitions to be consistent with their Integrated Report purposes. The State Water Board has redefined Categories 1-3 (Table 3) in an effort to better categorize the water quality conditions in California. Detailed Category Reports can be found in Appendices B-G.

The new definition for Category 3 states that "there is insufficient data and/or information to make a beneficial use support determination but information and/or data indicates beneficial uses may be potentially threatened." At this time, the state's CalWQA database is not able to identify those water segments where "beneficial uses may be potentially threatened" and therefore, no water segments are currently placed into Category 3. The State Water Board is currently working to revise the CalWQA database and include this new definition, at which time some of the water segments currently placed into Category 2 may be re-categorized.

Pursuant to Section 2 of the Listing Policy, water segments remain in Category 5 until all 303(d)-listed pollutants are addressed by USEPA approved TMDLs (or by another action that is expected to result in the reasonable attainment of the water quality standards) at which point the water segment will be placed into one of the Category 4 sub-categories (4a or 4b). Water segments placed in Categories 4a, 4b, or 5 are also on the 303(d) List. Figure 1 is a map of all Central Coast Region water segments assessed for this Integrated Report with those water segments that are in Categories 4a, 4b, or 5 (and therefore on the 303(d) List) identified in red.

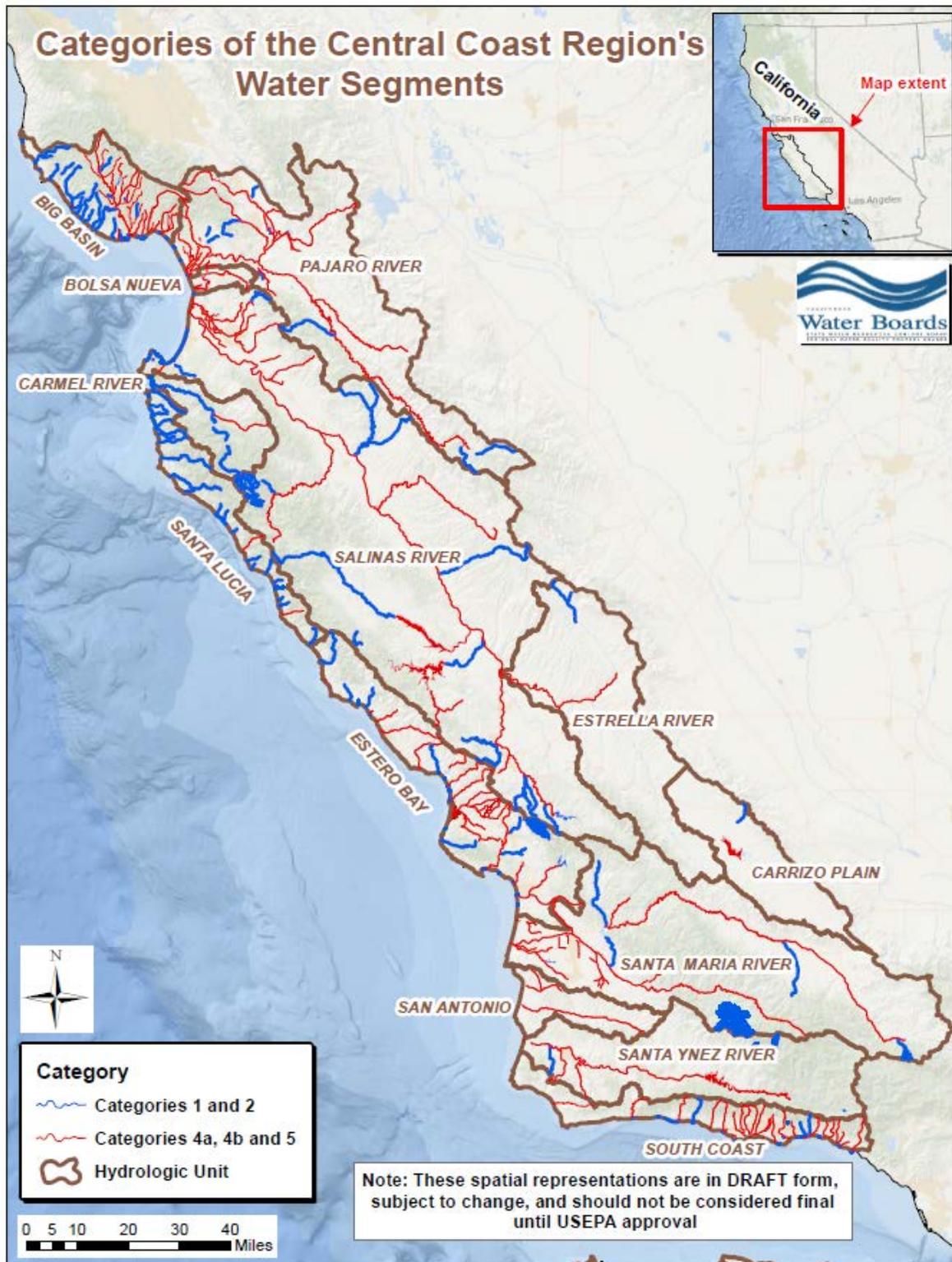


Figure 1. Map of all Central Coast Region's Hydrologic Units with water segments assessed for the 2014 Integrated Report. Water segments shown in blue are assigned to Categories 1 or 2. Water segments shown in red are assigned to Categories 4a, 4b, or 5 and therefore are on the 303(d) List.

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## New Assessment - Benthic Invertebrate Community Health

The evaluation of benthic invertebrate community data is often referred to as bioassessment. The State of California has been conducting bioassessment monitoring using stream benthic macroinvertebrates for over fifteen years in the Central Coast Region. The development of biological scoring tools (often referred to as indices or metrics) has been ongoing during that time period, with various regional and statewide indices developed.

In prior Integrated Report cycles, the Central Coast Water Board did not utilize benthic macroinvertebrate data because calculated metric scores were not readily available for use in those assessments. Those scores are not readily available. In the 2014 assessment cycle and in the future, all Regional Water Boards are expected to include assessments of biological community data.

For the Integrated Report in the Central Coast Region, both the Southern California Index of Biotic Integrity, also known as the SoCal IBI (Ode et al., 2005) and the California Stream Condition Index or CSCI (Mazor et al., 2016) were used to evaluate the condition of benthic invertebrate communities in wadeable streams.

The SoCal IBI utilizes a multi-metric index approach, combining information about diversity, habitat preferences, and sensitivity to pollution of benthic invertebrates to determine an index score. The CSCI utilizes a combined reference site approach to determine the site-specific benthic community expected to be present at any sampled site. SoCal IBI scores are available for use for all data collected prior to 2010 but the CSCI scores are available only for those same data where the appropriate level of taxonomic identification was reported. Therefore, some locations will have only IBI scores and some locations will have both IBI and CSCI scores.

The CSCI is applicable statewide, accounts for a much wider range of natural variability, and provides equivalent scoring thresholds in all regions of the state. Although CSCI scores are not yet calculated for all Central Coast Region's water segments, it is anticipated that CSCI scores will be available for most data used in future assessments. Where both IBI and CSCI scores are available, the CSCI score was used in the assessment over the regional IBI scores. In general, these scores agree on the condition of the benthic macroinvertebrate community condition.

Staff assessed bioassessment data in accordance with Sections 3.9, 4.9, and 6.1.5.8 of the Listing Policy. Staff assessed bioassessment data for 42 water segments and recommends adding 5 water segments to the 303(d) List for "benthic community effects" where all of the following conditions are true:

- a) The water segment exhibits significant degradation in biological populations and/or communities (as determined by a CSCI score below 0.79 and/or a SoCal IBI score below 40); and
- b) The aquatic life beneficial uses of the water segment are also impaired by concentrations of pollutants or factors including, but not limited to, chemical concentrations, temperature, and/or dissolved oxygen; and
- c) For a given water segment, data are available from one or more stations and/or from more than one season at the same station.

State Water Board staff also utilized bioassessment data in a multiple weight of evidence approach to determine if a wadeable stream is supporting aquatic life beneficial uses and

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therefore is qualified for placement in Category 1. This assessment is new to the 2014 assessment cycle and is based on a single sample collected as part of a statewide reference condition study (Ode et al., 2016). State Water Board staff recommends placing seven water segments from the Central Coast Region into Category 1 where all of the following is true:

- a) The water segment is identified as “reference,” having low risk of human-associated stress, based on land use analysis conducted by Ode et al. (2016); and
- b) One or more CSCI score(s) >0.92; and
- c) There are additional data available and there is no evidence of impairment to aquatic life beneficial uses (zero exceedances of any water quality objective or guideline).

## Assessment Procedures Unique to the Central Coast Region

### Interpreting Sediment Effects Using Benthic Macroinvertebrates

The Basin Plan narrative water quality objective for settleable material states “Waters shall not contain settleable material in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses.” Effects of excessive fine-grain sediment deposition (cover) are evaluated in association with benthic macroinvertebrate (BMI) community diversity measurements. Herbst et al. (2014) compared sediment and BMI diversity conditions at relatively undisturbed reference streams in Santa Cruz County and the Pajaro watershed, to that of streams currently on the 303(d) List in those watersheds for sediment impacts to aquatic life beneficial uses. Funding for this study was specific to the sediment TMDLs developed in the watersheds of Santa Cruz County and the Pajaro River. This study identified significant loss of BMI species diversity (measured by the number of Ephemeroptera (mayfly), Plecoptera (stonefly), and Trichoptera (caddisfly) taxa or EPT richness), where fine-grain sediment exceeded 40% cover.

The Central Coast Water Board contracted with Herbst et al. to develop and refine tools to assist the Central Coast Regional Water Board in developing and implementation of TMDLs for sediment.

Central Coast Water Board staff evaluated both EPT richness and percent cover of fine and sand sized sediments in the 13 water segments already on the 303(d) List due to sedimentation in Santa Cruz County and the Pajaro River Watershed. The 40% fine grain sediment cover evaluation guideline was exceeded at seven of the water segments, and in most cases, the sites also had poor BMI community condition. For these seven water segments, this assessment supports the previous 303(d) List decision that sediment is impacting aquatic life beneficial uses. Conversely, BMI and sediment grain size assessments for five water segments do not appear to support the previous decision but the sample counts are insufficient to determine if the water segment should be removed from the 303(d) List. For these segments, additional sediment and benthic macroinvertebrate data are needed to determine the sediment condition and potential impacts to aquatic life beneficial uses.

### Interpreting Narrative Objectives for Biostimulatory Substances

The Basin Plan narrative water quality objective for biostimulatory substances states, “waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.” Excessive nutrient concentrations can stimulate algal growth, which can create nuisance conditions for municipal water use and recreation, and can also remove oxygen from water, creating

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conditions unsuitable for aquatic life. Waters that contain excessive algal growth are characterized by wide variation in dissolved oxygen concentrations, typically dropping below concentrations set to protect for aquatic life at night, and rising above fully saturated levels during mid-day.

California contracted with Tetra Tech Inc. to develop the California Numeric Nutrient Endpoint (NNE) technical approach (Creager et al., 2006) to interpret the biostimulatory narrative objective, and to support development of numeric criteria for nutrients to protect for aquatic life beneficial uses. The NNE approach provides background support for use of the associated California Benthic Biomass Tool v.13 (Tetra Tech, February 2007), to predict in-stream benthic algal density and other metrics in response to a number of inputs. The Benthic Biomass Tool utilizes data inputs for nutrient concentrations, as well as for latitude, canopy cover, stream depth, and velocity to generate several model outputs including predicted benthic biomass and chlorophyll *a* concentrations for freshwater streams with COLD and/or WARM beneficial use designations. It also predicts the anticipated maximum oxygen deficit resulting from biostimulation. This is the maximum amount of dissolved oxygen expected to be removed from the water resulting from predicted algal growth.

Central Coast Water Board staff evaluated large regional datasets to develop a screening criterion for nitrate of 1.0 mg/L- as nitrogen, to protect for aquatic life uses. This approach is detailed in a peer reviewed technical report (CCRWQCB, April 2009). Staff used data from the CCAMP and the Cooperative Monitoring Program for Irrigated Agriculture to identify “reference sites” based on dissolved oxygen data that always meets COLD and/or WARM water quality objectives. Staff then examined nutrient characteristics of those reference sites and chose the 95<sup>th</sup> percentile of the nitrate data from the reference data to establish screening criterion for nitrate. Staff used the Benthic Biomass Tool to further evaluate these sites in terms of predicted level of risk for biostimulation.

For the 2014 Integrated Report, Central Coast Water Board staff screened water segments using 1.0 mg/L nitrate as nitrogen as a criterion to protect for aquatic life beneficial uses. Where nitrate levels exceed this screening level, staff evaluated additional evidence to determine the risk for and/or presence of biostimulatory conditions. Staff evaluated onsite measurements of dissolved oxygen, chlorophyll *a* in the water column, and percent cover of algal mats. In addition, staff used site-specific Benthic Biomass Tool outputs including predicted oxygen deficit, predicted benthic algal biomass, and predicted benthic chlorophyll *a* concentration. Water segments are proposed for addition to the 303(d) List only where nitrate concentrations exceed the nitrate screening level and there is supporting evidence of risk for and/or presence of biostimulatory conditions. Staff recommends placing 10 new water segments on the 303(d) List for which there is evidence of nitrate causing or contributing to a biostimulatory condition.

## TMDL Scheduling

A TMDL is the total maximum daily load(s) of a pollutant(s) that can be discharged into a water segment and still ensure the attainment of applicable water quality standards. Section 5 of the Listing Policy requires a TMDL completion schedule date to be assigned to each water segment/pollutant combination placed on the 303(d) List. Although this is referred to as a TMDL completion date, a listing can be addressed through updates of water quality standards or implementation of an existing regulatory program, rather than through development of TMDLs. Water Board staff relied on guidance from the USEPA (1997), which states that “schedules

should be expeditious and normally extend from eight to thirteen years in length, but could be shorter or slightly longer depending on state-specific factors.” Therefore, the timeline for completing TMDLs for waterbodies listed for the first time is estimated to be no longer than thirteen years, which equates to an estimated completion date of 2027.

Staff assigned one of three completion dates to all existing and proposed water segment/pollution combinations on the 303(d) List (Table 4). The rationale for each timeframe is explained in the table below. Generally, Central Coast Water Board staff assigned shorter timeframes for TMDL completion for the highest priority listings and longer timeframes for lower priority listings. The two highest priorities for the Central Coast Region, as listed in the Staff Report for the July 11, 2012 Board Meeting, are 1) preventing and correcting threats to human health, and 2) preventing and correcting degradation of aquatic habitat. Expected TMDL completion dates are also included in the fact sheets attached to this report (Appendix H).

Table 4. TMDL Completion dates, priorities, and number of 303(d) listings assigned each date.

<b>TMDL Completion Date</b>	<b>Priority for TMDL Completion</b>	<b>Number of Listings</b>
2018	Highest priority for TMDL development. All water segment/pollutant combinations that are in the current TMDL work plan which was developed based on the Central Coast Water Board’s priorities.	59
2023	All remaining Category 5 Listings for the following pollutants also deemed to be high priority for TMDL development: turbidity, temperature, toxicity and nutrients	114
2027	All Category 5 water segment/pollutant combinations not included above.	441

Of the 912 water segment/pollutant combinations proposed for the Central Coast Region’s 2014 303(d) List, 298 (33%) of those are already being addressed by an approved TMDL. An additional 20% of the water segment/pollutant combinations proposed for the Central Coast Region’s 2014 303(d) List should be addressed by 2023.

## Identification of Potential Sources

The Listing Policy requires staff to identify potential sources when adding a water segment/pollutant combination to the 303(d) List. Staff chose potential sources from a standard list in the CalWQA database. Potential sources are only identified when a specific source analysis has been performed as part of a TMDL or other source identification process. Otherwise, staff chose “Source Unknown.” Table 5 shows the most common sources associated with the 303(d) listed waters.

Table 5. Most common “potential sources” identified in the 2014 assessment cycle. Note, some water segment/pollutant combinations have more than one source.

Potential Sources	Percent of Listings	Number of Listings
Grazing	3%	28
Collection System Failure	5%	47
Natural Sources	13%	114
Urban/Storm Water	13%	118
Domestic Animals / Livestock	14%	126
Agriculture	21%	191
Source Unknown*	66%	604

\*Used in the absence of a source identification process.

## Staff Recommendations for Changes to the 303(d) List

All proposed changes for the Central Coast Region’s 2014 303(d) List are summarized in Appendix A. Recommended changes to the 303(d) List include the following:

- Add a water segment/pollution combination to the Central Coast Water Board’s 303(d) List;
- Remove a water segment/pollution combination from the Central Coast Water Board’s 303(d) List;
- Change a pollutant name (e.g. “Metals” to “Lead”); and/or
- Change the TMDL status based on approval of TMDLs.

## Summary of Pollutant Listings

Staff proposes 912 water segment/pollutant combinations for the Central Coast Region’s 2014 303(d) List. Figure 2 shows the number and proportion of 303(d) listings for each pollutant group.

Central Coast Water Board staff have prioritized development of TMDLs for nutrients, pesticides, and toxicity in all watersheds and are evaluating methodologies to address turbidity and temperature impairments in the Central Coast Region. These priorities are aligned with the Region’s priorities to prevent and correct threats to human health and aquatic habitats. Nineteen percent of the pollutants are nutrients or biostimulatory responses (i.e. low dissolved oxygen or elevated levels of chlorophyll *a* in the water column). Pesticides make up 13 percent of the pollutant listings, with several water segments having more than one pesticide listing. Toxicity listings make up six percent of the listings but many of the toxicity listings are the result of toxic

responses in both sediment and in water samples. Turbidity and water temperature combine for eight percent of the pollutants proposed for the Central Coast Region’s 2014 303(d) List.

Although indicator bacteria make up 26 percent of the Region’s pollutant listings, it should be noted that in many cases, a water segment (including stream and beach segments) are listed for two or more specific indicator bacteria (e.g. *E.coli*, *Enterococcus* and fecal coliform). Also noteworthy, 18 percent of the listings are for pH, total dissolved solids (TDS) or salts, such as chloride, boron or sodium. In some areas of the Central Coast Region, the geology is of marine origin and therefore higher levels of these salts are naturally occurring. Some of these listings may be addressed through the development of site-specific objectives that account for the geologic conditions instead of developing a TMDL.

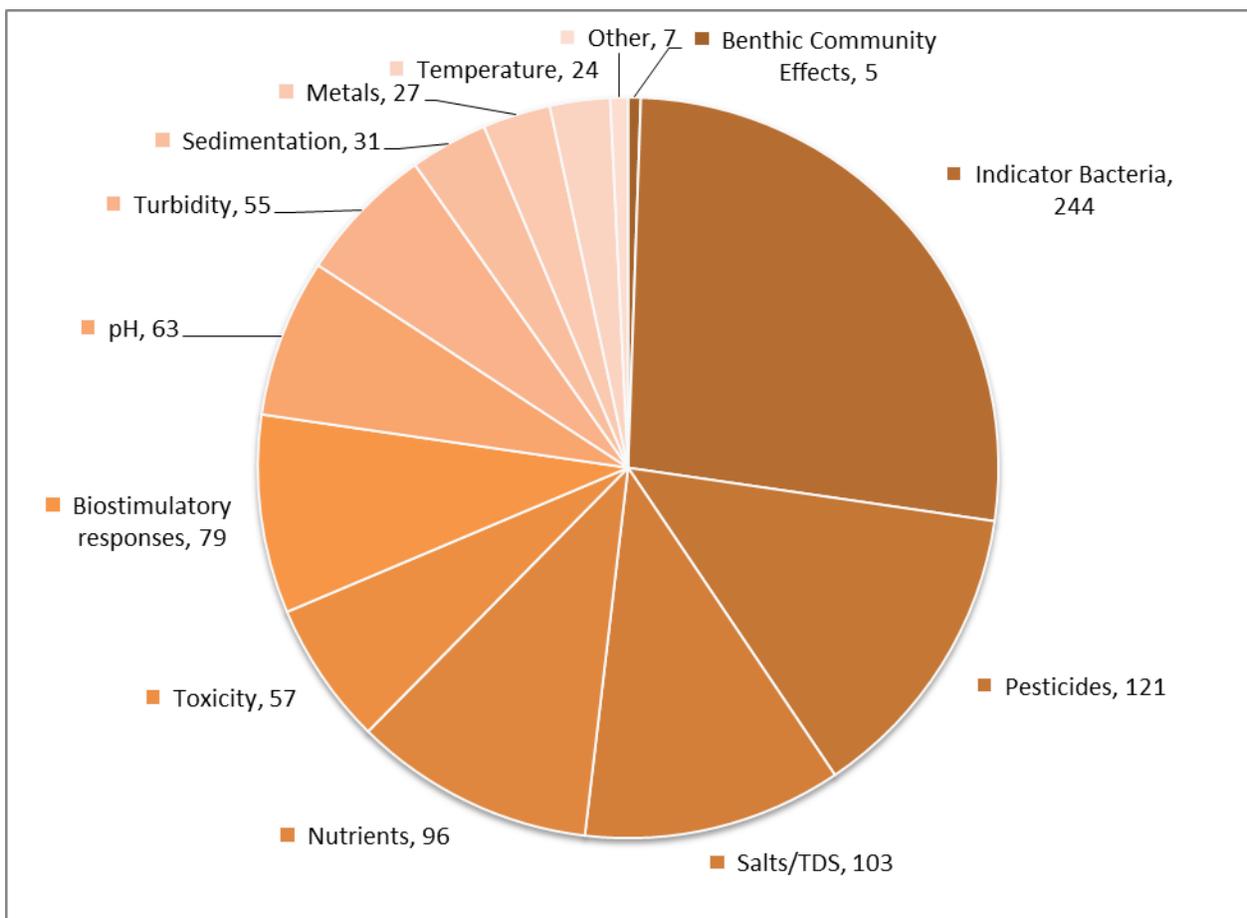


Figure 2. Number and proportion of 303(d) listings for each pollutant group proposed for the 2014 303(d) List.

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## Watershed Area Summaries

The following summaries are specific to each of the watershed areas (formally called Hydrologic Units) in the Central Coast Region. For each Hydrologic Unit, staff summarizes the numbers, locations, and types of data assessments as well as the listing recommendations.

### Big Basin Hydrologic Unit (HU 304)

The Big Basin Hydrologic Unit includes all the Santa Cruz County Coastal Watersheds north of the Pajaro River watershed. Central Coast Water Board staff assessed data for 86 water segments, including 51 creek or river segments, 5 lagoons, 3 lakes, 1 harbor, 3 coastline segments, and 23 beach segments in the Big Basin Hydrologic Unit. Staff identified 97 listings on 47 different water segments, including 11 beaches and a coastline segment. Beach listings are for one or more indicator bacteria. Stream or river segment listings include a variety of pollutants including the following: nutrients, indicator bacteria, low dissolved oxygen, pH, sedimentation, turbidity, water temperature, and chlorpyrifos. TMDLs have been developed and approved for 31 of these listings. The water segments with the most listings include San Lorenzo River (11 listings), Branciforte Creek (5 listings), and Santa Cruz Harbor (5 listings).

Central Coast Water Board staff recommends removal of seven Big Basin Hydrologic Unit water segment/pollutant combinations from the 303(d) List. Noteworthy are two recommendations based on attainment of water quality standards; Soquel Creek for turbidity and Capitola Beach for fecal coliform. In addition, staff recommends removal of the listings for sedimentation in San Vicente Creek because the previous data used to add this water segment to the list was incomplete and upon review of the complete data set, the data do not indicate sediment impairment in the water segment. Other de-listing recommendations either occurred in previous assessment cycles or are changes from a general pollutant name, such as “pathogens” to the specific indicator bacteria such as “fecal coliform.”

### Pajaro River Watershed Hydrologic Unit (HU 305)

The Pajaro River Hydrologic Unit includes the Pajaro River and all of its tributaries. Central Coast Water Board staff assessed data for 35 creek and river segments, 5 lakes, and 3 beaches in the Pajaro River Hydrologic Unit. As a result of the assessments, staff identified 9 water segment/pollutant combinations that warrant removal from the 303(d) List (de-list) including Clear Creek for mercury where restoration and clean-up activities have resulted in attainment of the water quality standard. Staff identified 143 water segment/pollutant combinations that are not meeting water quality standards and therefore should remain on or be added to the 303(d) List. TMDLs have been approved for 32 of the water segment/pollutant combinations. Listings primarily include the following pollutants: ammonia, nitrate, several individual pesticides, toxicity, chlorophyll *a*, low dissolved oxygen, water temperature, turbidity, pH, salts, TDS, and indicator bacteria. In addition, water quality standards are not being met in four of the five lakes in this Hydrologic Unit. The water segments with the most listings include Pajaro River (20 listings), Llagas Creek (13 listings), and Miller’s Canal (9 listings). One unique listing in this Hydrologic Unit is at Pinto Lake, for Microcystin toxins produced by cyanobacteria.

### Bolsa Nueva Hydrologic Unit (HU 306)

The Bolsa Nueva Hydrologic Unit includes Moss Landing Harbor and the watersheds of Elkhorn Slough and Moro Cojo Slough. Central Coast Water Board staff assessed data for six water segments including one creek, one harbor, and four sloughs/estuaries. As a result of the

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assessments, staff identified 42 water segment/pollutant combinations that are not meeting water quality standards and therefore should remain on or be added to the 303(d) List. TMDLs have been approved for five of these water segment/pollutant combinations. Pollutant listings primarily include the following: ammonia, nitrate, several individual pesticides, toxicity, chlorophyll *a*, indicator bacteria, low dissolved oxygen, pH, and turbidity. The water segments with the most listings include Moss Landing Harbor (12 listings), Moro Cojo Slough (11 listings), Carneros Creek (7 listings), and Elkhorn Slough (6 listings). Four water segment/pollutant combinations are proposed for removal from the 303(d) List; all due to either changes from a general pollutant name, (i.e. "pesticides" to the specific pesticides such as "DDT"), or due to a mapping change in the length of the delineated segment for this assessment cycle.

### **Carmel River Hydrologic Unit (HU 307)**

The Carmel River Hydrologic Unit includes the Carmel River, all of its tributaries, and the beaches within the watershed boundary. Central Coast Water Board staff assessed 93 water segment/pollutant combinations including one creek, one river, and two beach segments in the Carmel River Hydrologic Unit. As a result of the assessments, staff identified three water segment/pollutant combinations that are not meeting water quality standards and therefore should remain on or be added to the 303(d) List. All three listings are for Tularcitos Creek, for chloride, sodium, and fecal coliform. A TMDL has been approved for the fecal coliform listing.

### **Santa Lucia Hydrologic Unit (HU 308)**

The Santa Lucia Hydrologic Unit includes the coastal watersheds of Monterey County, south of the Carmel River Watershed. Central Coast Water Board staff assessed data for 23 creek and river segments, and 5 beaches, resulting in the assessment of 246 water segment/pollutant combinations. As a result of the assessments, staff identified two water segment/pollutant combinations that are not meeting water quality standards and therefore should be added to the 303(d) List: pH for Big Creek and for Willow Creek. However, it should be noted that 1) there are no known anthropogenic sources or land uses in these watersheds that could cause elevated pH levels, 2) the elevated pH levels are likely due to the marine origin of the geologic formations in these watersheds, and 3) all other water quality indicators show extremely high water quality in these watersheds.

### **Salinas River Watershed Hydrologic Unit (HU 309)**

The Salinas River Water Watershed Hydrologic Unit includes the Salinas River and all of its tributaries (with the exception of the Estrella River), the Gabilan Creek sub-watershed (which includes the Salinas Reclamation Canal, and Tembladero Slough), the watersheds of the Monterey Peninsula north of Carmel River watershed, as well as the beaches and coastline segments within the watershed boundary. Central Coast Water Board staff assessed data for 42 creek and river segments, 1 harbor, 4 lakes, 7 beaches, and 4 coastal segments and identified 207 water segment/pollutant combinations that are not meeting water quality standards and therefore should be added to or remain on the 303(d) List. TMDLs have been approved for 95 of these water segment/pollutant combinations.

The Salinas River is divided into three segments for the purpose of this assessment. Staff proposes 92 listings for the Salinas River segments and its direct tributaries including the following: ammonia, nitrate, several pesticides, toxicity, chlorophyll *a*, low dissolved oxygen, water temperature, turbidity, pH, salts, TDS, indicator bacteria, and benthic community effects.

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Two of the three reservoirs in this watershed are listed for elevated levels of mercury. Staff proposes 20 pollutant listings for the lower Salinas River segment. Other water segments with numerous pollutant listings include Chualar Creek (13 listings), Quail Creek (14 listings), and Blanco Drain (8 listings). Staff identified four water segment/pollutant combinations for which water quality standards are attained. Staff recommends removal of the following from the 303(d) List: Blanco Drain for dissolved oxygen, Chualar Creek for water temperature, Lower Salinas River for specific conductivity, and the middle segment of the Salinas River for *E. coli*.

The Gabilan Creek sub-watershed is connected to the Salinas River Lagoon by the Old Salinas River channel. All 11 water segments in this sub-watershed have two or more pollutant listings and 98 water segment/pollutant combinations are proposed for the 303(d) List. In general, pollutants are the same as are mentioned above for the Salinas River and its tributaries. Water segments with the most pollutant listings include Tembladero Slough (15 listings), Salinas Reclamation Canal (15 listings), and Old Salinas River (11 listings). Staff identified two water segment/pollutant combinations for which water quality standards are attained and recommends removal of the following from the List: Alisal Slough for dissolved oxygen and Natividad Creek for pH.

Assessments of Monterey Harbor, the coastal segments, and beaches resulted in five recommendations for listings in Monterey Harbor, and three listings for indicator bacteria at beaches.

### **Estero Bay Hydrologic Unit (HU 310)**

The Estero Bay Hydrologic Unit includes the coastal watersheds of San Luis Obispo County north of Oso Flaco Lake Watershed. Central Coast Water Board staff assessed 756 water segment/pollutant combinations for 63 water segments including the following: 34 creek or river segments, 26 beaches, 1 lake, and 2 bay/harbors. As a result of the assessments, staff identified 99 water segment/pollutant combinations that are not meeting water quality standards and therefore should be added to the 303(d) List. TMDLs have been approved for 20 of these water segment/pollutant combinations.

Recreation beneficial uses for seven beach segments are impaired by one or more indicator bacteria while creek segments listings primarily include the following: nitrate, toxicity, salts, TDS, indicator bacteria, low dissolved oxygen, pH, turbidity, and benthic community effects. The water segments with the most listings include San Luis Obispo Creek (7 listings), Chorro Creek (10 listings), and Arroyo Grande, below Lopez Lake (7 listings). Staff identified 2 beach segment-pollutant combinations for which water quality standards are attained, and recommends removal of the following from the List: Pacific Ocean at Avila Beach (Avila Pier) and Pacific Ocean at Olde Port Beach (at restrooms) for *Enterococcus*.

### **Carrizo Plains Hydrologic Unit (HU 311)**

The Carrizo Plains Hydrologic Unit includes the watershed of Soda Lake. Central Coast Water Board staff assessed data for Soda Lake in the Carrizo Plains Hydrologic Unit and identified a single listing for ammonia in Soda Lake.

### **Santa Maria River Watershed Hydrologic Unit (HU 312)**

The Santa Maria River Water Watershed Hydrologic Unit includes the Santa Maria River and all of its tributaries as well as the Oso Flaco Lake watershed. Central Coast Water Board staff

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assessed data for 23 creek and river segments, 2 lakes, 1 estuary, and 1 coastal segment and identified 152 listings on 19 different water segments.

For the Santa Maria River Watershed, staff identified 126 water segment/pollutant combinations that are not meeting water quality standards and therefore should be added to or remain on the 303(d) List. TMDLs have been approved for 93 of these water segment/pollutant combinations. Listings primarily include the following pollutants: ammonia, nitrate, several individual pesticides, toxicity, chlorophyll *a*, low dissolved oxygen, water temperature, turbidity, pH, salts, TDS, and indicator bacteria. In the Cuyama and Sisquoc Rivers, elevated levels of salts and pH may be natural and the result of geologic formations in those areas. Staff proposes 22 pollutant listings for Orcutt Creek; the most number of pollutants proposed for a single water segment in the Central Coast Region. Other water segments with numerous pollutant listings include the following: Santa Maria River (18 listings), Santa Maria River Estuary (12 listings), Main Street Canal (12 listings), Bradley Channel (11 listings), and Bradley Canyon Creek (10 listings).

For the Oso Flaco Lake Watershed, staff identified 25 water segment/pollutant combinations that are not meeting water quality standards and therefore should be added to the 303(d) List. TMDLs have been approved for 18 of these water segment/pollutant combinations. Pollutants primarily include the following: ammonia, nitrate, several individual pesticides, toxicity, low dissolved oxygen, turbidity, and indicator bacteria. Staff proposes 10 pollutant listings each for Oso Flaco Lake and Oso Flaco Creek.

Staff identified a single pollutant listing for the beach segment at Guadalupe dunes for total coliform.

### **San Antonio Creek Watershed Hydrologic Unit (HU 313)**

The San Antonio Creek Watershed Hydrologic Unit includes San Antonio Creek and its tributaries as well as the creeks in the Casmalia watershed. Central Coast Water Board staff assessed data for three creeks in the San Antonio Creek Hydrologic Unit. As a result of the assessments, staff identified two water segment/pollutant combinations that warrant removal from the 303(d) List (de-list): San Antonio Creek for ammonia and nitrite. Staff identified 9 water segment/pollutant combinations that are not meeting water quality standards and therefore should remain on or be added to the 303(d) List. Pollutant listings include the following: nitrate, salts, indicator bacteria, low dissolved oxygen, and sedimentation. Staff proposes six pollutant listings for San Antonio Creek, and one pollutant listing (sedimentation) for both Casmalia Canyon Creek and Shuman Canyon Creek.

No TMDLs have been approved by the USEPA of these water segment/pollutant combinations. However, in the development of the TMDL for nutrients in the San Antonio Creek Watershed, staff identified a point source and worked with landowners to eliminate that source. This water segment/pollutant combination is being addressed by an action other than a TMDL.

### **Santa Ynez River Watershed Hydrologic Unit (HU 314)**

The Santa Ynez River Watershed Hydrologic unit includes the Santa Ynez River and all of its tributaries and the coastal segment within the watershed boundary. Central Coast Water Board staff assessed data for nine water segments including six stream or river segments, two lakes, and one beach in the Santa Ynez River Hydrologic Unit. As a result of the assessments, staff identified 37 water segment/pollutant combinations that are not meeting water quality standards

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and therefore should remain on or be added to the 303(d) List. Pollutant listings in stream or river water segments primarily include the following: nitrate, toxicity, chloride, sodium, TDS, indicator bacteria, dissolved oxygen, pH, and temperature. The water segments with the most listings include Santa Ynez River below Lompoc (11 listings), Santa Ynez River between Lake Cachuma and Lompoc (5 listings), and San Miguelito Creek (8 listings). Cachuma Lake is impaired due to elevated levels of mercury in fish which exceed the human health criteria/evaluation guidelines for safe consumption, and Ocean Beach is impaired due to elevated levels of total coliform which exceed the shellfish consumption guidelines. No TMDLs have been approved for these water segment/pollutant combinations.

### **South Coast Hydrologic Unit (HU 315)**

The South Coast Hydrologic Unit includes all of the coastal watersheds south of the Santa Ynez Watershed. Central Coast Water Board staff assessed data for 130 water segments including 82 stream segments, 5 estuaries, 1 harbor, 40 beaches and, 1 coastline segment in the South Coast Hydrologic Unit. As a result of the assessments, staff identified 13 water segment/pollutant combinations that warrant removal from the 303(d) List (de-list): 12 beach segments for indicator bacteria and Rincon Creek for turbidity. Staff identified 138 water segment/pollutant combinations that are not meeting water quality standards and therefore should remain on or be added to the 303(d) List. TMDLs have been approved for 9 of these water segment/pollutant combinations.

Pollutant listings in stream or river water segments primarily include the following: nitrate, toxicity, specific pesticides, salts, indicator bacteria, low dissolved oxygen, pH, temperature, turbidity, and benthic community effects. Eight water segments are beaches where recreation uses are impaired due to one or more pathogen indicators. The water segments with the most listings include Atascadero Creek (11 listings), Arroyo Paredon (9 Listings), Rincon and San Jose Creeks (8 listings), and Carpinteria and Franklin Creeks (7 Listings). Santa Barbara Harbor has 4 pollutant listings for arsenic, copper, dieldrin, and low dissolved oxygen.

### **Santa Barbara Channel Hydrologic Unit (HU 316)**

The Santa Barbara Channel Hydrologic Unit includes all the watershed of the Channel Islands. Central Coast Water Board staff did not receive or assess any data or information for the watersheds of this Hydrologic Unit.

### **Estrella River Watershed Hydrologic Unit (HU 317)**

The Estrella River Watershed is a tributary to the Salinas Watershed and the Hydrologic Unit includes all the tributaries to the Estrella River. Water Board staff assessed data for 2 water segments in the Estrella River Hydrologic Unit. As a result of the assessments, staff identified 14 water segment/pollutant combinations that are not meeting water quality standards and therefore should remain on the 303(d) List. TMDLs have been approved for 4 of these water segment/pollutant combinations. Listings primarily include the following pollutants: toxicity, boron, chloride, sodium, conductivity, pH, dissolved oxygen, turbidity, and indicator bacteria. It should be noted that the geology in this watershed are of marine origin and elevated salt levels and pH are expected. However, the potential anthropogenic activities throughout the watershed may also contribute to the elevated levels.

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## Public Input Process and Water Board Approval

Pursuant to Section 6.2 of the Listing Policy, changes to the 303(d) List, require public review and approval by the Regional Water Board during a public hearing.

The Central Coast Water Board's public participation process includes a 30-day public comment period, a public workshop during that comment period, and a public hearing. Central Coast Water Board staff has scheduled a public workshop on September 14, 2016 to provide information to and solicit comments from interested parties regarding the draft 2014 303(d) List. In addition, interested parties may submit written comments during the 30-day public comment period from August 22, 2016 to September 23, 2016. Staff will consider and respond to public comments (Appendix L) in the development of the final 303(d) List and this revised summary report. Any revisions made to this report or the 303(d) List will be summarized in Appendix K. The Central Coast Water Board will hear staff's recommendations for updates to the 303(d) List at the public hearing scheduled for December 8-9, 2016.

The Listing Policy also requires State Water Board approval for changes to the 303(d) List. Following approval by the Central Coast Water Board, the proposed updates to the 303(d) List are then submitted to the State Water Board and combined with the recommended changes from the other Regional Water Boards. Once the changes for all nine Regions are compiled, the California Integrated Report is noticed for additional public review and approval by the State Water Board or Executive Officer.

The California 303(d) List will also require final approval by the USEPA. Should USEPA determine that changes are needed to the submitted List, they will initiate further public review before finalizing and publishing the Integrated Report. The 305(b) Report does not require Water Board or USEPA approval. However, USEPA will compile the data from the state's 305(b) Reports and transmit the summaries in their "National Water Quality Inventory Report" to Congress.

## Conclusion

Central Coast Water Board staff will recommend approval of the proposed updates to the 303(d) List to the Central Coast Water Board at a regularly scheduled public meeting on December 8-9, 2016. The 303d List serves to inform the public of which waterbodies and pollutants exceed protective water quality standards in the Central Coast Region and guide the Central Coast Water Board in priority, timing and approaches to improving water quality conditions. These recommendations are informed by water quality standards in the Basin Plan, and the Central Coast Vision of Healthy Watersheds. Approval of the 303(d) List is one of the first steps in our on-going planning and implementation efforts to protect beneficial uses and improve conditions in the waters of the Central Coast Region.

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## References

*For a complete list of references used in all the assessment fact sheets, see Appendix J*

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