

State Water Resources Control Board
Division of Drinking Water

Instructions for Completing the 2020 Consumer Confidence Report (CCR) for Small Water Systems

CONTENTS

CONTENTS.....	1
INTRODUCTION.....	1
SPECIAL NOTES.....	2
INSTRUCTIONS.....	3
DISTRIBUTING THE CCR.....	16
APPENDIX A: Regulated Contaminants with Primary Drinking Water Standards.....	17
APPENDIX B: Regulated Contaminants with Secondary Drinking Water Standards.....	40
APPENDIX C: Monitored Contaminants with No MCLs.....	41
Background.....	41
Federal UCMR 1 (2001 – 2003 Monitoring).....	41
Federal UCMR 2 (2008 – 2010 Monitoring).....	42
Federal UCMR 3 (2013 – 2015 Monitoring).....	43
Federal UCMR 4 (2018 – 2020 Monitoring).....	44
Reporting.....	46
APPENDIX D: State Contaminants with Notification Levels.....	47
APPENDIX E: Special Language for Nitrate, Arsenic, Lead, Radon, <i>Cryptosporidium</i> , Ground Water Systems, and Surface Water Systems.....	50
APPENDIX F: Certification Form (Suggested Format).....	54

INTRODUCTION

State regulations require community water systems (CWSs) and nontransient-noncommunity water systems (NTNCWSs) to provide consumers with an annual Consumer Confidence Report (CCR). The CCR includes information about the water system, water sources, definitions, levels of detected contaminants, water quality compliance/violations, and some educational information. The deadline for distributing the CCR to your consumers is July 1st of each year. In addition to these instructions, the State Water Resources Control Board (State Water Board)

Instructions for Small Water Systems
Revised **February 2021**

has developed CCR templates to help small water systems meet the CCR requirements. These templates, along with the State Water Board's document titled *Preparing Your California Drinking Water Consumer Confidence Report, Reference Manual for Water Suppliers* and its appendices, are available on the State Water Board's Consumer Confidence Reports (CCRs) website (https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/CCR.html):

- **2020** CCR template;
- Appendix A – Regulated Contaminants with Primary Drinking Water Standards;
- Appendix B – Regulated Contaminants with Secondary Drinking Water Standards;
- Appendix C – Monitored Contaminants with No Maximum Contaminant Levels (*i.e.*, State Unregulated Chemicals, and Federal Unregulated Contaminant Monitoring Rule [UCMR]);
- Appendix D – State Contaminants with Notification Levels (NLs);
- Appendix E – Special Language for Nitrate, Arsenic, Lead, Radon, *Cryptosporidium*, Groundwater Systems, and Surface Water Systems;
- Appendix F – CCR Certification Form (Suggested Format).

Note that this document is not a substitute for regulations, nor is it a regulation itself. Thus, it does not impose legally-binding requirements on the State Water Board or water suppliers and may not apply to a particular situation based upon its circumstances. This document does not confer legal rights or impose legal obligations upon any member of the public. While the State Water Board has made every effort to ensure the accuracy of the discussion in this document, the statutes, regulations, or other legally binding requirements determine the obligations of the regulated community. In the event of a conflict between the discussion in this document and any statute or regulations, this document would not be controlling.

If you need assistance preparing your CCR, please contact your Drinking Water Field Operations Branch (DWFOB) District Office or Local Primacy Agency (LPA). A copy of the drinking water related regulations is available at www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/Lawbook.shtml.

SPECIAL NOTES

The CCR is intended to inform your customers of the quality of the water served in the previous calendar year (January 1, **2020** – December 31, **2020**). However, not all water quality parameters are monitored every year. Therefore, if a parameter was not monitored during the previous year, the water system must report the most recent water quality monitoring data that are not more than nine years old. Results of detections of unregulated contaminants under the federal UCMR are recommended to be included for five years from the date of the last sampling. Water systems that continued to monitor for state unregulated contaminants are encouraged to include the information regarding detected contaminants in the CCR.

For any constituent that exceeded a maximum contaminant level (MCL), maximum residual disinfectant level (MRDL), treatment technique (TT), or regulatory action level (AL) or which otherwise resulted in a violation, the result must be highlighted to stand out. This should be done by using bold font type and marking the level detected with an asterisk (*).

INSTRUCTIONS

To begin using the CCR template, follow the instructions below, step-by-step, marking each section that you have completed. It is preferable that the report is typed; however, it is acceptable to complete the form by hand provided it is done neatly and legibly.

Page 1: Water System Information

- A. **Water System's Name and Report Date:** Fill in the water system's name and the date that the report was prepared.
- B. **Type of Water Source(s) in Use:** Indicate the type of water source(s) in use (for example: well, stream, river, lake, reservoir, etc.).
- C. **Name and General Location of Source(s):** Specify the name of the source and its general location. For example: Well 1 located in our service area; East Well from the [*name-of-aquifer*]; South Spring located in [*name-of-foothill, mountain, or watershed area*], etc. Water systems do not need to provide specific source location for security reasons. Treatment plant location is not required.
- D. **Drinking Water Source Assessment Information:** If a Drinking Water Source Assessment has been completed for your drinking water source(s), you must provide the following information: the date the assessment was completed (or last updated), that is available, where to get a copy, and a brief summary of your source water's vulnerability to contamination based on the assessment.

If the State Water Board or LPA conducted the assessment, it will provide the summary for you to include. If you conducted your own assessment, you may write the summary yourself by following the guidance of the Drinking Water Source Assessment and Protection (DWSAP) Program (https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/DWSAPGuidance.html).

- E. **Public Participation:** Indicate the time and place of regularly scheduled board meetings. If regularly scheduled meetings are not held, tell customers how to get information when meetings are announced or list opportunities for public participation in decisions that may affect the quality of the water.
- F. **Contact Information:** Provide the name and phone number of the water system owner, operator, or other person designated to respond to customer inquiries regarding the water system's CCR.

Pages 2 – 3: Tables 1 – 6 Showing the Detection of a Contaminant

The purpose of Tables 1 to 6 is to provide customers with information on any detection of chemicals/constituents, typical sources of contamination, possible health effects, and associated violations. The following steps will help in completing these tables:

G. **Table 1: Microbiological Contaminants**

Total Coliform Bacteria (state Total Coliform Rule) – Gather and review your 2020 distribution system coliform bacteria monitoring results. Find the month with the highest number of total coliform positive samples. Enter that number into the 2nd column. Then, in the 3rd column, enter the number of months in which there were two or more total coliform positive samples, which constitutes a violation.

Fecal Coliform or *Escherichia coli* (state Total Coliform Rule) – Review your 2020 distribution system coliform bacteria monitoring results. Determine the total number of samples that were positive for fecal coliform or *Escherichia coli* (*E. coli*) in 2020. Enter that number into the 2nd column. Then, in the 3rd column, enter the number of months where: (a) any repeat sample detected fecal coliform or *E. coli*, or (b) any repeat sample detected total coliform following a fecal coliform or *E. coli* positive routine sample.

***E. coli* (federal Revised Total Coliform Rule)** – Review your 2020 distribution system coliform bacteria monitoring results. Determine the total number of samples that were *E. coli* positive during that time period. Enter that number into the 2nd column. Then, in the 3rd column, enter the number of months in which: (a) routine and repeat samples are total coliform-positive and either is *E. coli*-positive, (b) the water system failed to take repeat samples following an *E. coli*-positive routine sample, or (c) the water system failed to analyze a total coliform-positive repeat sample for *E. coli*.

H. **Table 2: Lead and Copper** – Gather and review the most recent distribution system lead and copper sample set results. If there was a detection of lead or copper in any of the samples, enter the sample date (if sampled before 2020), number of samples collected, the 90th percentile level, and the number of sites where an individual sample exceeded the lead or copper AL. The procedure to calculate the 90th percentile is described in the California Code of Regulations, Title 22, section 64678(f).

You must also include the number of schools that have requested lead sampling from your system.

Tables 3, 4, 5 and 6: Other Chemical or Constituent Reporting – Gather and review the most recent chemical water quality sampling results from your water source(s). Complete Tables 3, 4, 5, and 6 as described below.

I. **Table 3: Sodium and Hardness** – Enter the sample date (if sampled before 2020), level detected, and range of detections. There are no drinking water standards for these two constituents, but they must be reported for customer information.

- J. **Table 4: Primary Drinking Water Standard (MCL, MRDL, TT, or AL)** – For a detection of any chemical/constituent, enter the chemical/constituent name, reporting unit, sample date (if sampled before 2020), level detected, range of detections, MCL/PHG (or MCLG), MRDL/MRDLG, and typical source of contamination. Appendix A lists chemicals and constituents with a primary MCL, MRDL, TT, or AL.
- K. **Table 5: Secondary Drinking Water Standard (Secondary MCL)** – For a detection of any chemical/constituent, enter the chemical/constituent name, reporting unit, sample date (if sampled before 2020), level detected, range of detections, MCL, and typical source of contamination. Appendix B lists chemicals and constituents with a secondary MCL.

Manganese: If manganese is detected above the NL of 500 µg/L, we encourage you to include the NL health effects language in your CCR. Appendix D lists contaminants with NLs and available health effects language.

- L. **Table 6: Unregulated Contaminant [see previous Special Notes section concerning UCMR reporting]** – For a detection of any unregulated contaminant for which the State Water Board or U.S. Environmental Protection Agency (EPA) previously required monitoring, enter the chemical/constituent name, reporting unit, sample date, level detected, and range of detection. It is recommended that the NL and health effects language be included, if available. Appendix C presents detailed information about the state unregulated contaminants and federal UCMR. Appendix D lists contaminants with NLs and available health effects language.

Note that there are some chemicals or constituents that do not have primary or secondary drinking water standards and do not need to be reported if detected. They include the following: Aggressive Index, Alkalinity (Bicarbonate, Carbonate, and Hydroxide), Calcium, Magnesium, and pH.

Additional Instructions for Tables 3, 4, 5, and 6

MCL, MRDL, AL, PHG, MCLG, and MRDLG Levels

Refer to Appendices A and B for the MCL, MRDL, AL, PHG, MCLG, and MRDLG for primary and secondary constituents, as well as the mandatory language for *Typical Source of Contaminant*. Insert this information for detected constituents into the appropriate columns. The MCLG level should be bracketed with “()”; the MRDL and MRDLG levels should be bracketed with “[]”.

Reporting Units

The State Water Board requires that the MCL, MRDL, or AL for a constituent be reported as a number equal to or greater than 1.0 (*i.e.*, 1 µg/L instead of 0.001 mg/L). The MCL, MRDL, AL, PHG, MCLG, and MRDLG levels in Appendices A and B have already been converted to comply with this requirement and can be used in the units as shown. **However, you must ensure that**

the *Level Detected* and *Range of Detections* reported in the tables is reported in the same units as the MCL, MRDL, or AL.

To do this, first check Appendices A and B to find the detected constituent that you must report. Identify the *Unit Measurement* column to determine the units in which the MCL/MRDL/AL must be reported in the CCR. You must then verify that the *Level Detected* is reported in the same units. If necessary, you must convert the level reported on the laboratory analysis to the MCL/MRDL/AL units. The following may help with your unit conversions:

If Appendices A or B gives the MCL/MRDL/AL units in µg/L (ppb), but your lab reported results in units of mg/L (ppm), multiply the lab result by 1,000.

If Appendices A or B gives the MCL/MRDL/AL units in µg/L (ppb) ng/L (ppt), but your lab reported results in units of mg/L (ppm), multiply the lab result by 1,000,000.

If Appendices A or B gives the MCL/MRDL/AL units in µg/L (ppb) ng/L (ppt), but your lab reported the result in units of µg/L (ppb), multiply the lab result by 1,000.

Example: Chlordane was detected at 0.001 mg/L. Appendix A gives the MCL for chlordane as 100 ng/L. Therefore, multiply the laboratory result by 1,000,000 to obtain the level to be reported in CCR Table 4 (Example: 0.001 mg/L x 1,000,000 = 1,000 ng/L).

Level Detected and Range of Detection

The following describes the procedure to determine the levels and ranges to be reported in the CCR.

- **For a water system with only one source:**

If only one sample was collected in 2020, report the result in the *Level Detected* column. Do not report anything in the *Range of Detections* column.

If more than one sample was collected in 2020, report the average in the *Level Detected* column and then enter the range of those results in the *Range of Detections* column.

Example: Finding an “average” and a “range”, if the results are 3, 5, 6, and 9.

Average= Sum of all results divided by the number of results
= [(3+5+6+9) / 4] = 23 / 4 = 5.75

Range = Lowest result to highest result = 3 - 9

- **For a water system with more than one source where each source was sampled only once in 2020:**

Report the average of the results from all sources in the *Level Detected* column, and then enter the range of those results in the *Range of Detections* column. If the sources are entering the distribution system at the same point, a flow-weighted average *may* be reported for the *Level Detected* column.

- **For a water system with more than one source where at least one source was sampled more than once in 2020:**

Determine one of the following for each source:

- ✓ If more than one sample was collected, average those results to use in the next step.
- ✓ If only one sample was collected, use that sample result in the next step

Now that you have a single result for each source, determine the average of those results. Report that average in the *Level Detected* column and then enter the range of all results in the *Range of Detections* column. If the sources are entering the distribution system at the same point, a flow-weighted average *may* be reported for the *Level Detected* column.

- **For a water system monitoring the distribution system for a disinfectant residual (e.g., chlorine) and compliance is determined on a system-wide basis by calculating a running annual average (RAA) of all sampling point averages:**

Report the highest RAA in the *Level Detected* column and then enter the range of the sample results from all the sampling points in the *Range of Detections* column.

- **For a water system monitoring the distribution system for disinfection byproducts (e.g., total trihalomethanes [TTHMs] and sum of five haloacetic acids [HAA5]) and compliance is determined on a locational running annual average (LRAA) by calculating an RAA for each monitoring location:**

If monitoring is performed annually – Report the highest 2020 value in the *Level Detected* column and then enter the range of the 2020 sample results from all the monitoring locations in the *Range of Detections* column. If there is only one sample location then the values in both columns would be the same.

If monitoring is performed quarterly – Report the highest 2020 LRAA in the *Level Detected* column and then enter the range of the 2020 sample results from all the monitoring locations in the *Range of Detections* column. If more than one monitoring location exceeds the MCL, include the LRAA for all locations that exceed the MCL.

- For a water system that has treatment for a chemical contaminant:

Report the highest level detected after treatment during 2020 in the *Level Detected* column. Then enter the range of all after-treatment results in the *Range of Detections* column.

Page 3: Additional General Information on Drinking Water

- M. **Additional Special Language for Nitrate, Arsenic, Lead, Radon, and *Cryptosporidium*:** Special language is required for these constituents if the level detected meets the criteria shown in the table below. The language shown on Appendix E must be provided in the CCR section titled *Additional General Information on Drinking Water*.

Contaminant	Criteria
Nitrate (as Nitrogen)	If nitrate level is above 5 mg/L, but below 10 mg/L.
Arsenic	If arsenic level is above 5 µg/L, but below or equal to 10 µg/L.
Lead	If lead level is above 0.015 mg/L (15 µg/L) in more than 5 percent, and up to and including 10 percent, of sites sampled. <ul style="list-style-type: none"> ➤ If your system collected fewer than 20 samples, include the special lead language if any number of samples exceeded the lead AL. ➤ If your system collected 20 samples, include the special lead language if more than 1 sample exceeded the lead AL. ➤ If your system collected 40 samples, include the special lead language if more than 2 samples exceeded the lead AL.
Radon	If radon is detected in any finished water sample.
<i>Cryptosporidium</i>	If <i>Cryptosporidium</i> is detected in any source water or finished water sample.

- N. **Additional Special Language for Lead:** All CCRs are required to include additional special language for lead, regardless of the results of monitoring. The language shown on Appendix E is already provided in the CCR section titled *Additional General Information on Drinking Water*.
- O. **Federal Revised Total Coliform Rule (RTCRCR):** The information below is for all CWSs. NTNCWSs may include the information in the CCR to keep their customers informed. The statement(s) may be added in the CCR section titled *Additional General Information on Drinking Water*.

- If *E. coli* was detected and the *E. coli* MCL was not violated, you may include a statement that explains that although *E. coli* was detected, the water system is not in violation of the *E. coli* MCL.
- If your water system had positive samples under the state TCR and federal RTCR, you should include an explanation to facilitate a better understanding of the public health differences of the two rules. An example is provided below.

*“This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems are required to comply with the state Total Coliform Rule. Effective April 1, 2016, all water systems are also required to comply with the federal Revised Total Coliform Rule. The new federal rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and *E. coli* bacteria). The U.S. EPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.”*

**Page 4: Summary Information for Violation of an MCL, MRDL, AL, TT,
or Monitoring and Reporting Requirements**

- P. **If the system had a violation of a *primary* or *secondary* drinking water standard (MCL, MRDL, TT, AL or monitoring and reporting requirement):** An asterisk must be placed beside the *Level Detected* value listed in Tables 1, 2, 4, or 5. The CCR must include an explanation of the violation including: duration of the violation, potential adverse health effects (for a *primary* MCL, MRDL, TT, or AL), and actions taken to address the violation. This information must be provided in the section titled *Summary Information for Contaminants Exceeding an MCL, MRDL, AL or Violation of Any TT or Monitoring and Reporting Requirements*. Please contact your DWFOB District Office if you are uncertain whether you had any violations of drinking water standards during the year.

Federal Revised Total Coliform Rule (RTCR): For CCR reporting, the below MCL and TT violations applies only to CWSs. NTNCWSs that experience any of these violations are encouraged to include the information in the CCR to keep their customers informed.

Federal RTCR

- ✓ *E. coli* MCL Violation: Routine and repeat samples are total coliform-positive and either is *E. coli*-positive, or a water system fails to take repeat samples following an *E. coli*-positive routine sample, or a water system fails to analyze total coliform-positive repeat sample for *E. coli*.
- ✓ Treatment Technique (TT) Violation: When a water system exceeds a TT trigger specified in 40 CFR §141.859(a) and then fails to conduct the required Level 1 or Level 2 Assessment or corrective actions within the timeframe specified in 40 CFR §141.859(b) and (c). See Item X for an explanation of a total coliform bacteria TT requirement and *E. coli* TT requirement.
- ✓ Treatment Technique (TT) Violation: For a seasonal system, failure to complete a State Water Board-approved start-up procedure prior to serving water to the public. Under the federal RTCR, a seasonal system means a non-community water system (*i.e.*, nontransient-noncommunity water system or a transient-noncommunity water system) that is not operated as a public water system on a year-round basis and starts up and shuts down at the beginning and end of each operating session.

Potential Adverse Health Effects: Appendix A provides the mandatory language that must be used in this section of the report describing potential adverse health effects for constituents with a primary MCL, MRDL, TT, or AL for which a violation occurred.

If the System had a Violation of a Secondary MCL: There is no mandatory health effects language for violation of a *secondary* MCL. However, you are encouraged to explain that secondary standards are in place to establish an acceptable aesthetic quality of the water.

Example entries for violations of the *total coliform* primary MCL and the *iron* secondary MCL are provided below:

1. **Total Coliform MCL Violation:** *“Our water system failed the drinking water standard for total coliform during January 2020 due to improper disinfection following a water main repair. We have adopted improved disinfection procedures to ensure that this will not occur again. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially-harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.”*
2. **Iron MCL Violation:** *“Iron was found at levels that exceed the secondary MCL of 300 µg/L. The iron MCL was set to protect you against unpleasant aesthetic effects (e.g., color, taste, and odor) and the staining of plumbing fixtures (e.g., tubs and sinks) and clothing while washing. The high iron levels are due to leaching of natural deposits.”*

Page 4: For Water Systems Providing Groundwater as a Source of Drinking Water

- Q. **Table 7: Sampling Results Showing Fecal Indicator-Positive Groundwater Source Samples** The purpose of this table is to provide customers with information on the microbiological quality of groundwater sources.

Gather and review your 2020 groundwater source monitoring results for *E. coli*, enterococci, and coliphage. Determine the total number of samples that were positive in 2020. Enter that number into the 2nd column. Then, in the 3rd column, enter the dates of the fecal indicator-positive groundwater source samples.

Page 4: Summary Information for Fecal Indicator-Positive Groundwater Source Samples, Uncorrected Significant Deficiencies, or Violation of a Groundwater TT

Note: Items R, S, and T apply only to CWSs and NTNCWSs using groundwater.

- R. **If the groundwater system had fecal indicator-positive groundwater source samples:** The CCR must include: (1) source of fecal contamination (if known) and the date(s) of the fecal indicator-positive source sample, (2) if the fecal contamination has been addressed as prescribed by the requirements of the GWR [California Code of Regulations, section 64430, which incorporated by reference the federal GWR – 40 CFR 141.403(a)] and the date the contamination was addressed, (3) for fecal contamination that has not been addressed, the State Water Board-approved plan and schedule for correction, including interim measures, progress to date, and any interim measures completed, and (4) health effects language from Appendix A. This information must be provided in the section titled *Summary Information for Fecal Indicator-Positive Groundwater Source Samples, Uncorrected Significant Deficiencies, or Violation of a Groundwater TT*.

The system must continue to inform customers annually until the fecal contamination in the groundwater source is addressed as prescribed by the requirements of the GWR.

- S. **If the groundwater system received notice from the State Water Board of a significant deficiency, and that deficiency is not corrected by December 31st of the year covered by the system's CCR:** The CCR must include the nature of the significant deficiency, the date it was identified by the State Water Board, and the State Water Board-approved plan and schedule for correction, including interim measures, progress to date, and any interim measures completed. This information must be provided in the section titled *Summary Information for Fecal Indicator-Positive Groundwater Source Samples, Uncorrected Significant Deficiencies, or Violation of a Groundwater TT*.

The system must continue to inform customers annually until the State Water Board determines the significant deficiency is corrected.

In addition, the State Water Board may also require the system to include in the CCR significant deficiencies that were corrected by the end of the calendar year. If the State Water Board directs the system to do this, the system must inform the customers of the significant deficiency, how it was corrected, and the date it was corrected.

- T. **If the groundwater system had a GWR TT violation as shown in the table below:** The CCR must include an explanation of the TT violation including duration of the violation, potential adverse health effects (see Appendix A – Groundwater Systems), and actions taken to address the violation. This information must be provided in the section titled *Summary Information for Fecal Indicator-Positive Groundwater Source Samples, Uncorrected Significant Deficiencies, or Violation of a Groundwater TT*. Please contact your DWFOB District Office if you are uncertain whether you had any violations of a TT during the year.

Ground Water Rule (GWR)

- ✓ Failure to maintain 4-log treatment of viruses for more than 4 hours for groundwater systems required to treat.
- ✓ Failure to take corrective action or be in compliance with a plan and schedule for a fecal indicator-positive groundwater source sample.
- ✓ Failure to take corrective action or be in compliance with a plan and schedule for a significant deficiency.

Page 5: For Systems Providing Surface Water as a Source of Drinking Water

- U. **Table 8: Sampling Results Showing Treatment of Surface Water Sources:** The purpose of this table is to provide customers with information on the treatment of surface water sources (or sources designated as groundwater under the direct influence of surface water).

In the spaces provided on Table 7, enter the type of approved filtration that is used by your water system (*i.e., conventional filtration, direct filtration, slow sand filtration, etc.*) and the turbidity performance standards assigned to that technology. Then, gather and review your 2020 filtered water turbidity monitoring results. Find the month with the lowest percentage of samples that met Performance Standard No. 1 as indicated on Table 7. Enter that percentage into the table. Then, enter the highest single turbidity measurement for the year. Lastly, enter the number of violations of any surface water treatment requirement.

Page 5: Summary Information for Violation of a Surface Water TT

- V. **If the system had a SWTR, IESWTR, LT1ESWTR, FBRR or LT2ESWTR TT violation as shown in the table below:** An asterisk must be placed beside the appropriate entry in Table 8. The CCR must include an explanation of the TT violation including the

Instructions for Small Water Systems
Revised February 2021

duration of the violation, potential adverse health effects (see Appendix E – Surface Water Systems), and actions taken to address the violation. This information must be provided in the section titled *Summary Information for Violation of a Surface Water TT*. Please contact your DWFOB District Office if you are uncertain whether you had any violations of a TT during the year.

Surface Water Treatment Rule (SWTR), Interim Enhanced Surface Water Treatment Rule (IESWTR), and Long Term 1 Enhanced Surface Water Treatment Rule

- ✓ Failure to install adequate filtration or disinfection equipment or processes.
- ✓ Failure of the filtration or disinfection equipment or process.
- ✓ Failure to meet inactivation requirements at the treatment plant (CT value).
- ✓ Failure to maintain at least 0.2 mg/L disinfection residual at the distribution system entry point for more than 4 hours.
- ✓ Failure to maintain a distribution system disinfectant residual.
- ✓ Failure to meet source water quality conditions (only filtration avoidance systems).
- ✓ Failure to meet watershed control program requirements (only filtration avoidance systems).
- ✓ Failure to have redundant components for disinfection or automatic shut-off of water delivered to the distribution system (only filtration avoidance systems).

Filtered Backwash Recycling Rule (FBRR)

- ✓ Failure to return recycle flows through the processes of the existing filtration system or to an alternate State Water Board-approved location (conventional and direct filtration systems only).

Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)

- ✓ Failure to cover an uncovered finished water reservoir, provide treatment of the reservoir's discharge (to achieve inactivation and/or removal of at least 4-log virus, 3-log *Giardia lamblia*, and 2-log *Cryptosporidium* using a protocol approved by the State Water Board), or be in compliance with a State Water Board-approved schedule to cover the reservoir(s) or treat the reservoir(s) discharge.
- ✓ Filtered Systems
 - Failure to determine and report bin classification.
 - Failure to provide or install an additional level of treatment using a microbial toolbox option by the required date.
 - Failure to achieve required treatment credit to meet the bin classification requirements using a microbial toolbox option.
- ✓ Unfiltered Systems
 - Failure to calculate and report mean *Cryptosporidium* level.
 - Failure to install a second disinfectant to treat for *Cryptosporidium* by required date.
 - Failure to achieve required inactivation level by required date.
 - Failure to maintain required inactivation level based on mean *Cryptosporidium* results.

Page 5: For Systems Operating Under a Variance or Exemption

- W. **If the system operated under a variance or exemption at any time during the year covered by the CCR:** The CCR must include an explanation of the reasons for the variance or exemption, the date that it was issued, why it was granted, when it is up for renewal, and a status report on what the system is doing to remedy the problem (e.g., install treatment, find alternative sources or water, etc.) or otherwise comply with the terms and schedules of the variance or exemption. Also, tell the consumers how they may participate in the review of renewal of the variance or exemption. This information must be provided in the section titled *Summary Information for Operating Under a Variance or Exemption*.

**Page 6: Summary Information for Federal Revised Total Coliform Rule
Level 1 and Level 2 Assessment Requirements**

Note: Item X below applies only to CWSs that had to comply with a Level 1 or Level 2 Assessment requirement in 2020. NTNCWSs are encouraged to include the information to keep their customers informed. Please contact your DWFOB District Office if you are uncertain if you need to complete this section or need additional help to complete this section.

- X. **Level 1 or Level 2 Assessment Requirement not Due to an *E. coli* MCL Violation.** If your water system was required to comply with a Level 1 or Level 2 Assessment requirement that was not due to an *E. coli* MCL violation, your CCR must include information on the number of assessments required and completed, corrective actions required and completed, and reasons for conducting assessments and corrective actions. The mandatory language shown on the report form under the subsection titled *Level 1 and Level 2 Assessment Requirement not Due to an E. coli MCL Violation* must be used. Statements in the second and third paragraphs must be included, as appropriate, filling in the blanks accordingly.

If your water system failed to complete all required assessments or correct all identified sanitary defects, your water system is in violation of the total coliform bacteria TT requirement. Your CCR must include one or both of the following statements, as appropriate. Add the statement(s) as a new paragraph in the space provided.

During the past year we failed to conduct all of the required assessment(s).

During the past year we failed to correct all identified defects that were found during the assessment.

Level 2 Assessment Requirement Due to an *E. coli* MCL Violation. If your water system was required to comply with a Level 2 Assessment requirement that was due to an *E. coli* MCL violation, your CCR must include information on the number of assessments required and completed, corrective actions required and completed, and

reasons for conducting assessments and corrective actions. The mandatory language shown on the report form under the subsection titled *Level 2 Assessment Requirement Due to an E. coli MCL Violation* must be used. Statements in the second paragraph must be included, filling in the blanks accordingly.

If your water system failed to complete the required assessment or correct all identified sanitary defects, your water system is in violation of the *E. coli* TT requirement. Your CCR must include one or both of the following statements, as appropriate. Add the statement(s) as a new paragraph in the space provided.

We failed to conduct the required assessment.

We failed to correct all sanitary defects that were identified during the assessment.

DISTRIBUTING THE CCR

Water systems are required to mail or directly deliver one copy of the CCR by July 1, 2021 to each customer, the DWFOB District Office, and the California Public Utilities Commission (if the water system is privately-owned). Upon issuing the report, the water system will need to complete and submit Appendix F, *CCR Certification Form* to the DWFOB District Office no later than October 1, 2020.

The State Water Board allows electronic delivery of the CCR. Suggestions on delivery methods, examples, and the certification form to use are available on the State Water Board's website (www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/CCR.shtml).

APPENDIX A: Regulated Contaminants with Primary Drinking Water Standards

Microbiological Contaminants

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
Total Coliform Bacteria (state Total Coliform Rule)		Footnote ¹	(0)	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
Fecal coliform and <i>E. coli</i> (state Total Coliform Rule)		Footnote ²	(0)	Human and animal fecal waste	Fecal coliforms and <i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
Total Coliform Bacteria (federal Revised Total Coliform Rule)		TT	N/A	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs,

¹ Systems that collect 40 or more samples per month: 5.0% of monthly samples are positive. Systems that collect less than 40 samples per month:

1 positive monthly sample.

² A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or *E. coli* positive.

Instructions for Small Water Systems
Revised **February 2021**

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
					we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
<p><i>E. coli</i> (federal Revised Total Coliform Rule)</p>		<p>Footnote³</p>	<p>(0)</p>	<p>Human and animal fecal waste</p>	<p><i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems.</p> <p><i>For the consumer confidence report, if a water system detects E. coli and has violated the E. coli MCL, the water system shall include the following statements, as appropriate.</i></p> <ul style="list-style-type: none"> • We had an <i>E. coli</i>-positive repeat sample following a total coliform-positive routine sample. • We had a total coliform-positive repeat sample following an <i>E. coli</i>-positive routine sample. • We failed to take all required repeat samples following an <i>E. coli</i>-positive routine sample. • We failed to test for <i>E. coli</i> when any re repeat sample tests positive for total coliform. <p><i>If the E. coli MCL was not violated, the water system may include a statement that explains that although E. coli was detected, the water system is not in violation of the E. coli MCL.</i></p>

³A system is in compliance with the *E. coli* MCL unless any of the following conditions occurs: routine and repeat samples are total coliform-positive or routine and repeat samples are *E. coli*-positive or system fails to take repeat samples following *E. coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli*.

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
<i>E. coli</i> (federal Revised Total Coliform Rule)		TT	N/A	Human and animal fecal waste	<i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems.
Fecal Indicator (<i>E. coli</i>) (Ground Water Rule)		0	(0)	Human and animal fecal waste	Fecal coliforms and <i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
Fecal Indicators (enterococci or coliphage) (Ground Water Rule)		TT	N/A	Human and animal fecal waste	Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
Turbidity		TT	N/A	Soil runoff	Turbidity has no health effects. However, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
					parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
<i>Giardia lamblia</i> , Viruses, Heterotrophic Plate Count Bacteria, <i>Legionella</i> , <i>Cryptosporidium</i>		TT	HPC = N/A; Others = (0)	Naturally present in the environment	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Radioactive Contaminants

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
Gross Beta Particle Activity	pCi/L	50 ⁴	(0)	Decay of natural and man-made deposits	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Strontium-90	pCi/L	8	0.35	Decay of natural and man-made deposit	Some people who drink water containing strontium-90 in excess of the MCL over many years may have an increased risk of getting cancer.
Tritium	pCi/L	20,000	400	Decay of natural and man-made deposits	Some people who drink water containing tritium in excess of the MCL over many years may have an increased risk of getting cancer.
Gross Alpha Particle Activity	pCi/L	15	(0)	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in

⁴ Effective June 11, 2006, the gross beta particle activity MCL is 4 millirems/year annual dose equivalent to the total body or any internal organ. 50 pCi/L is used as a screening level.

Contaminant	Unit Measure-ment	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
					excess of the MCL over many years may have an increased risk of getting cancer.
Combined Radium 226 & 228	pCi/L	5	(0) ⁵	Erosion of natural deposits	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Total Radium (for nontransient-noncommunity water systems)	pCi/L	5	N/A	Erosion of natural deposits	Some people who drink water containing radium 223, 224, or 226 in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium	pCi/L	20	0.43	Erosion of natural deposits	Some people who drink water containing uranium in excess of the MCL over many years may have kidney problems or an increased risk of getting cancer.

Inorganic Contaminants

Contaminant	Unit Measure-ment	MCL (AL) TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
Aluminum	mg/L	1	0.6	Erosion of natural deposits; residue from some surface water treatment processes	Some people who drink water containing aluminum in excess of the MCL over many years may experience short-term gastrointestinal tract effects.
Antimony	µg/L	6	1	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder	Some people who drink water containing antimony in excess of the MCL over many years may experience increases in blood cholesterol and decreases in blood sugar.

⁵ If reporting results for Ra-226 and Ra-228 as individual constituents, the PHG is 0.05 pCi/L for Ra-226 and 0.019 pCi/L for Ra-228.

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measure-ment	MCL (AL) TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
Arsenic	µg/L	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes	Some people who drink water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problems, and may have an increased risk of getting cancer.
Asbestos	MFL	7	7	Internal corrosion of asbestos cement water mains; erosion of natural deposits	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Barium	mg/L	1	2	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years may experience an increase in blood pressure.
Beryllium	µg/L	4	1	Discharge from metal refineries, coal-burning factories, and electrical, aerospace, and defense industries	Some people who drink water containing beryllium in excess of the MCL over many years may develop intestinal lesions.
Cadmium	µg/L	5	0.04	Internal corrosion of galvanized pipes; erosion of natural deposits; discharge from electroplating and industrial chemical factories, and metal refineries; runoff from waste batteries and paints	Some people who drink water containing cadmium in excess of the MCL over many years may experience kidney damage.
Chromium (Total)	µg/L	50	(100)	Discharge from steel and pulp mills and chrome	Some people who use water containing chromium in excess of the MCL over many years may experience allergic dermatitis.

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measure-ment	MCL (AL) TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
				plating; erosion of natural deposits	
Copper	mg/L	(AL=1.3)	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Cyanide	µg/L	150	150	Discharge from steel/metal, plastic and fertilizer factories	Some people who drink water containing cyanide in excess of the MCL over many years may experience nerve damage or thyroid problems.
Fluoride	mg/L	2.0	1	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth.
Lead	µg/L	(AL=15)	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits	Infants and children who drink water containing lead in excess of the action level may experience delays in their physical or mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measure-ment	MCL (AL) TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
					this water over many years may develop kidney problems or high blood pressure.
Mercury (Inorganic)	µg/L	2	1.2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and cropland	Some people who drink water containing mercury in excess of the MCL over many years may experience mental disturbances, or impaired physical coordination, speech and hearing.
Nickel	µg/L	100	12	Erosion of natural deposits; discharge from metal factories	Some people who drink water containing nickel in excess of the MCL over many years may experience liver and heart effects.
Nitrate (as Nitrogen, N)	mg/L	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die because high nitrate levels can interfere with the capacity of the infant's blood to carry oxygen. Symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women.
Nitrite (as nitrogen, N)	mg/L	1	1	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrite in excess of the MCL may quickly become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blueness of the skin.

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measure-ment	MCL (AL) TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
Perchlorate	µg/L	6	1	Perchlorate is an inorganic chemical used in solid rocket propellant, fireworks, explosives, flares, matches, and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aerospace or other industrial operations that used or use, store, or dispose of perchlorate and its salts.	Perchlorate has been shown to interfere with uptake of iodide by the thyroid gland, and to thereby reduce the production of thyroid hormones, leading to adverse affects associated with inadequate hormone levels. Thyroid hormones are needed for normal prenatal growth and development of the fetus, as well as for normal growth and development in the infant and child. In adults, thyroid hormones are needed for normal metabolism and mental function.
Selenium	µg/L	50	30	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years may experience hair or fingernail losses, numbness in fingers or toes, or circulation system problems.
Thallium	µg/L	2	0.1	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories	Some people who drink water containing thallium in excess of the MCL over many years may experience hair loss, changes in their blood, or kidney, intestinal, or liver problems.

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
2,4-D	µg/L	70	20	Runoff from herbicide used on row crops, range land, lawns, and aquatic weeds	Some people who use water containing the weed killer 2,4-D in excess of the MCL over many years may experience kidney, liver, or adrenal gland problems.
2,4,5-TP (Silvex)	µg/L	50	3	Residue of banned herbicide	Some people who drink water containing Silvex in excess of the MCL over many years may experience liver problems.
Acrylamide		TT	(0)	Added to water during sewage/wastewater treatment	Some people who drink water containing high levels of acrylamide over a long period of time may experience nervous system or blood problems, and may have an increased risk of getting cancer.
Alachlor	µg/L	2	4	Runoff from herbicide used on row crops	Some people who use water containing alachlor in excess of the MCL over many years may experience eye, liver, kidney, or spleen problems, or experience anemia, and may have an increased risk of getting cancer.
Atrazine	µg/L	1	0.15	Runoff from herbicide used on row crops and along railroad and highway right-of-ways	Some people who use water containing atrazine in excess of the MCL over many years may experience cardiovascular system problems or reproductive difficulties.
Bentazon	µg/L	18	200	Runoff/leaching from herbicide used on beans, peppers, corn, peanuts, rice, and ornamental grasses	Some people who drink water containing bentazon in excess of the MCL over many year may experience prostate and gastrointestinal effects.
Benzo(a)pyrene (PAH)	ng/L	200	7	Leaching from linings of water storage tanks and distribution mains	Some people who use water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
					difficulties and may have an increased risk of getting cancer.
Carbofuran	µg/L	18	0.7	Leaching of soil fumigant used on rice and alfalfa, and grape vineyards	Some people who use water containing carbofuran in excess of the MCL over many years may experience problems with their blood, or nervous or reproductive system problems.
Chlordane	ng/L	100	30	Residue of banned insecticide	Some people who use water containing chlordane in excess of the MCL over many years may experience liver or nervous system problems, and may have an increased risk of getting cancer.
Dalapon	µg/L	200	790	Runoff from herbicide used on rights-of-ways, and crops and landscape maintenance	Some people who drink water containing dalapon in excess of the MCL over many years may experience minor kidney changes.
Di(2-ethylhexyl) adipate	µg/L	400	200	Discharge from chemical factories	Some people who drink water containing di(2-ethylhexyl) adipate in excess of the MCL over many years may experience weight loss, liver enlargement, or possible reproductive difficulties.
Di(2-ethylhexyl) phthalate	µg/L	4	12	Discharge from rubber and chemical factories; inert ingredient in pesticides	Some people who use water containing di(2-ethylhexyl) phthalate in excess of the MCL over many years may experience liver problems or reproductive difficulties, and may have an increased risk of getting cancer.
Dibromochloropropane (DBCP)	ng/L	200	1.7	Banned nematocide that may still be present in soils due to runoff/leaching from	Some people who use water containing DBCP in excess of the MCL over many years may experience reproductive difficulties and

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
				former use on soybeans, cotton, vineyards, tomatoes, and tree fruit	may have an increased risk of getting cancer.
Dinoseb	µg/L	7	14	Runoff from herbicide used on soybeans, vegetables, and fruits	Some people who drink water containing dinoseb in excess of the MCL over many years may experience reproductive difficulties.
Dioxin (2,3,7,8-TCDD)	pg/L	30	0.05	Emissions from waste incineration and other combustion; discharge from chemical factories	Some people who use water containing dioxin in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Diquat	µg/L	20	6	Runoff from herbicide use for terrestrial and aquatic weeds	Some people who drink water containing diquat in excess of the MCL over many years may get cataracts.
Endothall	µg/L	100	94	Runoff from herbicide use for terrestrial and aquatic weeds; defoliant	Some people who drink water containing endothall in excess of the MCL over many years may experience stomach or intestinal problems.
Endrin	µg/L	2	0.3	Residue of banned insecticide and rodenticide	Some people who drink water containing endrin in excess of the MCL over many years may experience liver problems.
Epichlorohydrin		TT	(0)	Discharge from industrial chemical factories; impurity of some water treatment chemicals	Some people who drink water containing high levels of epichlorohydrin over a long period of time may experience stomach problems, and may have an increased risk of getting cancer.
Ethylene dibromide (EDB)	ng/L	50	10	Discharge from petroleum refineries; underground gas tank leaks; banned	Some people who use water containing ethylene dibromide in excess of the MCL over many years may experience liver, stomach, reproductive system, or kidney

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
				nematocide that may still be present in soils due to runoff and leaching from grain and fruit crops	problems, and may have an increased risk of getting cancer.
Glyphosate	µg/L	700	900	Runoff from herbicide use	Some people who drink water containing glyphosate in excess of the MCL over many years may experience kidney problems or reproductive difficulties.
Heptachlor	ng/L	10	8	Residue of banned insecticide	Some people who use water containing heptachlor in excess of the MCL over many years may experience liver damage and may have an increased risk of getting cancer.
Heptachlor epoxide	ng/L	10	6	Breakdown of heptachlor	Some people who use water containing heptachlor epoxide in excess of the MCL over many years may experience liver damage, and may have an increased risk of getting cancer.
Hexachlorobenzene	µg/L	1	0.03	Discharge from metal refineries and agricultural chemical factories; byproduct of chlorination reactions in wastewater	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years may experience liver or kidney problems, or adverse reproductive effects, and may have an increased risk of getting cancer.
Hexachlorocyclopentadiene	µg/L	50	2	Discharge from chemical factories	Some people who use water containing hexachlorocyclopentadiene in excess of the MCL over many years may experience kidney or stomach problems.
Lindane	ng/L	200	32	Runoff/leaching from insecticide used on	Some people who drink water containing lindane in excess of the MCL over many

Instructions for Small Water Systems
Revised February 2021

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
				cattle, lumber, and gardens	years may experience kidney or liver problems.
Methoxychlor	µg/L	30	0.09	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, and livestock	Some people who drink water containing methoxychlor in excess of the MCL over many years may experience reproductive difficulties.
Molinate (Ordram)	µg/L	20	1	Runoff/leaching from herbicide used on rice	Some people who use water containing molinate in excess of the MCL over many years may experience reproductive effects.
Oxamyl (Vydate)	µg/L	50	26	Runoff/leaching from insecticide used on field crops, fruits and ornamentals, especially apples, potatoes, and tomatoes	Some people who drink water containing oxamyl in excess of the MCL over many years may experience slight nervous system effects.
PCBs (Polychlorinated biphenyls)	ng/L	500	90	Runoff from landfills; discharge of waste chemicals	Some people who drink water containing PCBs in excess of the MCL over many years may experience changes in their skin, thymus gland problems, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
Pentachlorophenol	µg/L	1	0.3	Discharge from wood preserving factories, cotton and other insecticidal/herbicidal uses	Some people who use water containing pentachlorophenol in excess of the MCL over many years may experience liver or kidney problems, and may have an increased risk of getting cancer.
Picloram	µg/L	500	166	Herbicide runoff	Some people who drink water containing picloram in excess of the MCL over many years may experience liver problems.

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
Simazine	µg/L	4	4	Herbicide runoff	Some people who use water containing simazine in excess of the MCL over many years may experience blood problems.
Thiobencarb	µg/L	70	42	Runoff/leaching from herbicide used on rice	Some people who use water containing thiobencarb in excess of the MCL over many years may experience body weight and blood effects.
Toxaphene	µg/L	3	0.03	Runoff/leaching from insecticide used on cotton and cattle	Some people who use water containing toxaphene in excess of the MCL over many years may experience kidney, liver, or thyroid problems, and may have an increased risk of getting cancer.
1,2,3-Trichloropropane	ng/L	5	0.7	Discharge from industrial and agricultural chemical factories; leaching from hazardous waste sites; used as cleaning and maintenance solvent, paint and varnish remover, and cleaning and degreasing agent; byproduct during the production of other compounds and pesticides.	Some people who drink water containing 1,2,3-trichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.

Volatile Organic Contaminants

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
Benzene	µg/L	1	0.15	Discharge from plastics, dyes and nylon factories; leaching from gas storage tanks and landfills	Some people who use water containing benzene in excess of the MCL over many years may experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Carbon tetrachloride	ng/L	500	100	Discharge from chemical plants and other industrial activities	Some people who use water containing carbon tetrachloride in excess of the MCL over many years may experience liver problems and may have an increased risk of getting cancer.
1,2-Dichlorobenzene	µg/L	600	600	Discharge from industrial chemical factories	Some people who drink water containing 1,2-dichlorobenzene in excess of the MCL over many years may experience liver, kidney, or circulatory system problems.
1,4-Dichlorobenzene	µg/L	5	6	Discharge from industrial chemical factories	Some people who use water containing 1,4-dichlorobenzene in excess of the MCL over many years may experience anemia, liver, kidney, or spleen damage, or changes in their blood.
1,1-Dichloroethane	µg/L	5	3	Extraction and degreasing solvent; used in the manufacture of pharmaceuticals, stone, clay, and glass products; fumigant	Some people who use water containing 1,1-dichloroethane in excess of the MCL over many years may experience nervous system or respiratory problems.
1,2-Dichloroethane	ng/L	500	400	Discharge from industrial chemical factories	Some people who use water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
1,1-Dichloroethylene	µg/L	6	10	Discharge from industrial chemical factories	Some people who use water containing 1,1-dichloroethylene in excess of the MCL over many years may experience liver problems.
cis-1,2-Dichloroethylene	µg/L	6	100	Discharge from industrial chemical factories; major biodegradation byproduct of TCE and PCE groundwater contamination	Some people who use water containing cis-1,2-dichloroethylene in excess of the MCL over many years may experience liver problems.
trans-1,2-Dichloroethylene	µg/L	10	60	Discharge from industrial chemical factories; minor biodegradation byproduct of TCE and PCE groundwater contamination	Some people who drink water containing trans-1,2-dichloroethylene in excess of the MCL over many years may experience liver problems.
Dichloromethane	µg/L	5	4	Discharge from pharmaceutical and chemical factories; insecticide	Some people who drink water containing dichloromethane in excess of the MCL over many years may experience liver problems and may have an increased risk of getting cancer.
1,2-Dichloropropane	µg/L	5	0.5	Discharge from industrial chemical factories; primary component of some fumigants	Some people who use water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
1,3-Dichloropropene	ng/L	500	200	Runoff/leaching from nematocide used on croplands	Some people who use water containing 1,3-dichloropropene in excess of the MCL over many years may have an increased risk of getting cancer.
Ethylbenzene	µg/L	300	300	Discharge from petroleum refineries;	Some people who use water containing ethylbenzene in excess of the MCL over

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
				industrial chemical factories	many years may experience liver or kidney problems.
Methyl- <i>tert</i> -butyl ether	µg/L	13	13	Leaking underground storage tanks; discharges from petroleum and chemical factories	Some people who use water containing methyl- <i>tert</i> -butyl ether in excess of the MCL over many years may have an increased risk of getting cancer.
Monochlorobenzene	µg/L	70	70	Discharge from industrial and agricultural chemical factories and dry cleaning facilities	Some people who use water containing monochlorobenzene in excess of the MCL over many years may experience liver or kidney problems.
Styrene	µg/L	100	0.5	Discharge from rubber and plastic factories; leaching from landfills	Some people who drink water containing styrene in excess of the MCL over many years may experience liver, kidney, or circulatory system problems.
1,1,2,2-Tetrachloroethane	µg/L	1	0.1	Discharge from industrial and agricultural chemical factories; solvent used in production of TCE, pesticides, varnish and lacquers	Some people who drink water containing 1,1,2,2-tetrachloroethane in excess of the MCL over many years may experience liver or nervous system problems.
Tetrachloroethylene (PCE)	µg/L	5	0.06	Discharge from factories, dry cleaners, and auto shops (metal degreaser)	Some people who use water containing tetrachloroethylene in excess of the MCL over many years may experience liver problems, and may have an increased risk of getting cancer.
1,2,4-Trichlorobenzene	µg/L	5	5	Discharge from textile-finishing factories	Some people who use water containing 1,2,4-trichlorobenzene in excess of the MCL over many years may experience adrenal gland changes.

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
1,1,1-Trichloroethane	µg/L	200	1000	Discharge from metal degreasing sites and other factories; manufacture of food wrappings	Some people who use water containing 1,1,1-trichloroethane in excess of the MCL over many years may experience liver, nervous system, or circulatory system problems.
1,1,2-Trichloroethane	µg/L	5	0.3	Discharge from industrial chemical factories	Some people who use water containing 1,1,2-trichloroethane in excess of the MCL over many years may experience liver, kidney, or immune system problems.
Trichloroethylene (TCE)	µg/L	5	1.7	Discharge from metal degreasing sites and other factories	Some people who use water containing trichloroethylene in excess of the MCL over many years may experience liver problems and may have an increased risk of getting cancer.
Toluene	µg/L	150	150	Discharge from petroleum and chemical factories; underground gas tank leaks	Some people who use water containing toluene in excess of the MCL over many years may experience nervous system, kidney, or liver problems.
Trichlorofluoromethane	µg/L	150	1300	Discharge from industrial factories; degreasing solvent; propellant and refrigerant	Some people who use water containing trichlorofluoromethane in excess of the MCL over many years may experience liver problems.
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	1.2	4	Discharge from metal degreasing sites and other factories; dry cleaning solvent; refrigerant	Some people who use water containing 1,1,2-trichloro-1,2,2-trifluoroethane in excess of the MCL over many years may experience liver problems.
Vinyl chloride	ng/L	500	50	Leaching from PVC piping; discharge from plastics factories; biodegradation	Some people who use water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.

Contaminant	Unit Measurement	MCL TT, as noted	PHG (MCLG)	Major Sources of Contamination	Health Effects Language
				byproduct of TCE and PCE groundwater contamination	
Xylenes	mg/L	1.750	1.8	Discharge from petroleum and chemical factories; fuel solvent	Some people who use water containing xylenes in excess of the MCL over many years may experience nervous system damage.

Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors

Contaminant	Unit Measurement	MCL [MRDL] TT, as noted	PHG (MCLG) [MRDLG]	Major Sources of Contamination	Health Effects Language
TTHMs (Total Trihalomethanes)	µg/L	80	N/A	Byproduct of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer.
HAA5 (Sum of 5 Haloacetic Acids)	µg/L	60	N/A	Byproduct of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Bromate	µg/L	10	0.1	Byproduct of drinking water disinfection	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
Chloramines	mg/L	[MRDL = 4.0 (as Cl ₂)]	[MRDLG = 4 (as Cl ₂)]	Drinking water disinfectant added for treatment	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess

Instructions for Small Water Systems
 Revised February 2021

Contaminant	Unit Measurement	MCL [MRDL] TT, as noted	PHG (MCLG) [MRDLG]	Major Sources of Contamination	Health Effects Language
					of the MRDL could experience stomach discomfort or anemia.
Chlorine	mg/L	[MRDL = 4.0 (as Cl ₂)]	[MRDLG = 4 (as Cl ₂)]	Drinking water disinfectant added for treatment	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Chlorite	mg/L	1.0	0.05	Byproduct of drinking water disinfection	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
Chlorine Dioxide	µg/L	[MRDL = 800 (as ClO ₂)]	[MRDLG = 800 (as ClO ₂)]	Drinking water disinfectant added for treatment	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
Control of DBP precursors (TOC)		TT	N/A	Various natural and man-made sources	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the

Instructions for Small Water Systems
 Revised **February 2021**

Contaminant	Unit Measurement	MCL [MRDL] TT, as noted	PHG (MCLG) [MRDLG]	Major Sources of Contamination	Health Effects Language
					MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of cancer.

APPENDIX B: Regulated Contaminants with Secondary Drinking Water Standards

Monitoring Required by Section 64449, Chapter 15, Title 22, California Code of Regulations

Contaminant	Unit Measurement	MCL	Typical Source of Contaminant
Aluminum	µg/L	200	Erosion of natural deposits; residual from some surface water treatment processes
Color	Units	15	Naturally-occurring organic materials
Copper	mg/L	1.0	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Foaming Agents (MBAS)	µg/L	500	Municipal and industrial waste discharges
Iron	µg/L	300	Leaching from natural deposits; industrial wastes
Manganese	µg/L	50	Leaching from natural deposits
Methyl-tert-butyl ether (MTBE)	µg/L	5	Leaking underground storage tanks; discharge from petroleum and chemical factories
Odor--Threshold	Units	3	Naturally-occurring organic materials
Silver	µg/L	100	Industrial discharges
Thiobencarb	µg/L	1	Runoff/leaching from rice herbicide
Turbidity	Units	5	Soil runoff
Zinc	mg/L	5.0	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	mg/L	1,000	Runoff/leaching from natural deposits
Specific Conductance	µS/cm	1,600	Substances that form ions when in water; seawater influence
Chloride	mg/L	500	Runoff/leaching from natural deposits; seawater influence
Sulfate	mg/L	500	Runoff/leaching from natural deposits; industrial wastes

There are no PHGs, MCLGs, or mandatory standard health effects language for these constituents because secondary MCLs are set on the basis of aesthetics.

APPENDIX C: Monitored Contaminants with No MCLs

Background

The 1996 Amendments to the SDWA required the U.S. EPA to establish criteria for a monitoring program for unregulated contaminants, and to publish, once every five years, a list of no more than 30 contaminants to be monitored by public water systems (PWS).

Section 64450 of the California Code of Regulations also required certain water systems to monitor a number of unregulated contaminants, with contaminant lists that were published or revised in 1990, 1996, 2000, and 2003. This section of the California Code of Regulations was repealed effective October 18, 2007. Water systems that continued to monitor for state unregulated contaminants are encouraged, but not required, to include the information regarding detected contaminants in the CCR.

Although Section 64450 of the California Code of Regulations was repealed, the State Water Board may request water systems to monitor for specific contaminants per HSC section 116375(b).

Federal UCMR 1 (2001 – 2003 Monitoring)

The U.S. EPA published the first list of contaminants to monitor as part of the UCMR in September 1999. Contaminants were divided into two lists: Assessment Monitoring (List 1), and Screening Survey (List 2).

Assessment Monitoring of List 1 contaminants was conducted by large PWS serving more than 10,000 people and 800 representative small PWS serving 10,000 or fewer people. Assessment Monitoring was conducted by each PWS over a 12-month period between 2001 and 2003.

Screening Survey was conducted by a randomly selected set of 300 large and small PWSs for List 2 contaminants. Screening Survey for chemical contaminants was conducted in 2001 and 2002 for small and large PWS, respectively. Screening Survey for *Aeromonas* was conducted in 2003 for small and large PWS.

UCMR 1 List 1 – Assessment Monitoring	UCMR 1 List 2 – Screening Survey
✓ 2,4-dinitrotoluene	✓ 1,2-diphenylhydrazine
✓ 2,6-dinitrotoluene	✓ 2-methyl-phenol
✓ Acetochlor	✓ 2,4-dichlorophenol
✓ DCPA mono-acid degradate	✓ 2,4-dinitrophenol
✓ DCPA di-acid degradate	✓ 2,4,6-trichlorophenol
✓ 4,4'-DDE	✓ <i>Aeromonas</i>
✓ EPTC	✓ Alachlor ESA
✓ Molinate	✓ Diazinon
✓ MTBE	✓ Disulfoton
✓ Nitrobenzene	✓ Diuron
✓ Perchlorate	✓ Fonofos

UCMR 1 List 1 – Assessment Monitoring	UCMR 1 List 2 – Screening Survey
<ul style="list-style-type: none"> ✓ Terbacil 	<ul style="list-style-type: none"> ✓ Linuron ✓ Nitrobenzene ✓ Prometon ✓ Hexahydro-1,3,5-trinitro-1-3-5-triazine [RDX] ✓ Terbufos

Federal UCMR 2 (2008 – 2010 Monitoring)

The U.S. EPA published the second list of contaminants to monitor as part of the UCMR in January 2007.

Assessment Monitoring was required of all PWS serving more than 10,000 people and 800 representative PWS serving 10,000 or fewer people for List 1 contaminants. Assessment Monitoring was required of each PWS during a 12-month period from January 2008 to December 2010.

Screening Survey was required of all PWS serving more than 100,000 people, 320 representative PWS serving 10,001 to 100,000 people, and 480 representative PWS serving 10,000 or fewer people for List 2 contaminants. Screening Survey was required of each PWS during a 12-month period from January 2008 to December 2010.

UCMR 2 List 1 – Assessment Monitoring	UCMR 2 List 2 – Screening Survey
<ul style="list-style-type: none"> ✓ Dimethoate ✓ Terbufos sulfone ✓ 2,2',4,4'-tetrabromodiphenyl ether ✓ 2,2',4,4',5-pentabromodiphenyl ether ✓ 2,2',4,4',5,5'-hexabromobiphenyl ✓ 2,2',4,4',5,5'-hexabromodiphenyl ether ✓ 2,2',4,4',6-pentabromodiphenyl ether ✓ 1,3-dinitrobenzene ✓ 2,4,6-trinitrotoluene (TNT) ✓ Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) 	<ul style="list-style-type: none"> ✓ Acetochlor ethane sulfonic acid ✓ Acetochlor oxanilic acid ✓ Alachlor ethane sulfonic acid ✓ Alachlor oxanilic acid ✓ Metolachlor ethane sulfonic acid ✓ Metolachlor oxanilic acid ✓ Acetochlor ✓ Alachlor ✓ Metolachlor ✓ N-nitrosodiethylamine (NDEA) ✓ N-nitrosodimethylamine (NDMA) ✓ N-nitroso-di-n-butylamine (NDBA) ✓ N-nitroso-di-n-propylamine (NDPA) ✓ N-nitrosomethylethylamine (NMEA) ✓ N-nitrosopyrrolidine (NPYR)

Federal UCMR 3 (2013 – 2015 Monitoring)

The third UCMR list of contaminants was published in May 2012.

Assessment Monitoring (List 1 Contaminants) was required of all PWS serving more than 10,000 people and 800 representative PWS serving 10,000 or fewer people. Assessment Monitoring was required of each PWS during a 12-month period from January 2013 to December 2015.

Screening Survey (List 2 Contaminants) was required of all PWS serving more than 100,000 people, 320 representative PWS serving 10,001 to 100,000 people, and 480 representative PWS serving 10,000 or fewer people. Screening Survey was required of each PWS during a 12-month period from January 2013 to December 2015.

Pre-screen Testing (List 3 Contaminants) was required from a selection of 800 representative PWS serving 1,000 or fewer people that do not disinfect. These PWS were selected because they have groundwater wells that were located in areas of karst or fractured bedrock. Monitored lasted 12 months between January 2013 and December 2015.

UCMR 3 List 1 – Assessment Monitoring	UCMR 3 List 2 – Screening Survey	UCMR 3 List 3 – Pre-Screen Testing
<ul style="list-style-type: none"> ✓ 1,2,3-trichloropropane ✓ 1,3-butadiene ✓ Chloromethane (methyl chloride) ✓ 1,2-dichloroethane ✓ Bromomethane (methyl bromide) ✓ Chlorodifluoromethane (HCFC-22) ✓ Bromochloromethane (halon 1011) ✓ 1,4-dioxane ✓ Vanadium ✓ Molybdenum ✓ Cobalt ✓ Strontium ✓ Chromium (total) ✓ Chromium-6 ✓ Chlorate ✓ Perfluorooctanesulfonate acid (PFOS) ✓ Perfluorooctanoic acid (PFOA) ✓ Perfluorononanoic acid (PFNA) 	<ul style="list-style-type: none"> ✓ 17-β-estradiol ✓ 17-α-ethynylestradiol (ethinyl estradiol) ✓ 16-α-hydroxyestradiol (estriol) ✓ Equilin ✓ Estrone ✓ Testosterone ✓ 4-androstene-3,17-dione 	<ul style="list-style-type: none"> ✓ Enteroviruses ✓ Noroviruses

UCMR 3 List 1 – Assessment Monitoring	UCMR 3 List 2 – Screening Survey	UCMR 3 List 3 – Pre-Screen Testing
<ul style="list-style-type: none"> ✓ Perfluorohexanesulfonic acid (PFHxS) ✓ Perfluoroheptanoic acid (PFHpA) ✓ Perfluorobutanesulfonic acid (PFBS) 		

Federal UCMR 4 (2018 – 2020 Monitoring)

The fourth list of contaminants to monitor as part of the UCMR was published by the U.S. EPA in December 2016.

PWSs are required to monitor for 10 cyanotoxins at the entry point to the distribution system during a 4-consecutive month period from March 2018 through November 2020, according to the table below. PWSs are also required to monitor for 20 additional chemical contaminants and indicators during a 12-month period from January 2018 through December 2020. The sampling site for these additional chemicals is the entry point to the distribution system, except for HAAs that need to be monitored at the Stage 2 D/DBPR sampling sites. The two indicators, *i.e.*, TOC and bromide, need to be monitored at source water intakes.

System Size (Population Served)	10 Cyanotoxins	20 Chemicals
Small Systems (25 – 10,000)	800 randomly selected surface water or ground water under the direct influence of surface water (GWUDI) systems	A different group of 800 randomly selected surface water systems, GWUDI and groundwater systems
Large Systems (10,001 or more)	All surface water and GWUDI systems	All surface water, groundwater and GWUDI systems

The 10 cyanotoxins and 20 additional chemical contaminants and indicators are listed in the table below.

UCMR 4 Chemical Contaminants and Indicators

Cyanotoxins	Minimum Reporting Level
Total Microcystin	0.3 µg/L
Microcystin-LA	0.008 µg/L
Microcystin-LF	0.006 µg/L

Instructions for Small Water Systems
 Revised **February 2021**

Microcystin-LR	0.02 µg/L
Microcystin-LY	0.009 µg/L
Microcystin-RR	0.006 µg/L
Microcystin-YR	0.02 µg/L
Nodularin	0.005 µg/L
Anatoxin-a	0.03 µg/L
Cylindrospermopsin	0.09 µg/L

Additional Chemicals	Minimum Reporting Level
Germanium	0.3 µg/L
Manganese	0.4 µg/L
Alpha-hexachlorocyclohexane	0.01 µg/L
Chlorpyrifos	0.03 µg/L
Dimethipin	0.2 µg/L
Ethoprop	0.03 µg/L
Oxyfluorfen	0.05 µg/L
Profenofos	0.3 µg/L
Tebuconazole	0.2 µg/L
Total Permethrin (cis- & trans-)	0.04 µg/L
Tribufos	0.07 µg/L
HAA5	N/A
HAA6Br ¹	N/A
HAA9 ²	N/A
1-butanol	2.0 µg/L
2-methoxyethanol	0.4 µg/L
2-propen-1-ol	0.5 µg/L
butylated hydroxyanisole	0.03 µg/L
o-toluidine	0.007 µg/L
quinoline	0.02 µg/L
Total Organic Carbon (TOC)	N/A

Additional Chemicals	Minimum Reporting Level
Germanium	0.3 µg/L
Bromide	N/A

¹ HAA6Br: Bromochloroacetic acid, bromodichloroacetic acid, dibromoacetic acid, dibromochloroacetic acid, monobromoacetic acid, and tribromoacetic acid.

² HAA9: Bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, tribromoacetic acid, and trichloroacetic acid.

Reporting

U.S. EPA is essentially silent on the issue of reporting federal UCMR contaminants beyond the previous calendar year's detections, other than to say it is not required and that data older than five years need not be reported. As a result, the State Water Board recommends systems to report data for five years from the date of the last sampling.

APPENDIX D: State Contaminants with Notification Levels

Inclusion of the Notification Level (NL) and health effects language for contaminant concentrations detected above the NL is recommended, but not required.

Chemical	Notification Level	Health Effects Language (Optional)
Boron	1 mg/L	Boron exposures resulted in decreased fetal weight (developmental effects) in newborn rats.
n-Butylbenzene	260 µg/L	Exposures to cumene (isopropylbenzene), a surrogate for n-, sec-, and tert-butylbenzene, resulted in increased kidney weight in rats.
sec-Butylbenzene	260 µg/L	Exposures to cumene (isopropylbenzene), a surrogate for n-, sec-, and tert-butylbenzene, resulted in increased kidney weight in rats.
tert-Butylbenzene	260 µg/L	Exposures to cumene (isopropylbenzene), a surrogate for n-, sec-, and tert-butylbenzene, resulted in increased kidney weight in rats.
Carbon Disulfide	160 µg/L	Carbon disulfide exposures resulted in decreased motor conduction velocity in people.
Chlorate	800 µg/L	Animal studies demonstrated that chlorate exposure in rats caused adverse effects to the pituitary and thyroid glands.
2-Chlorotoluene	140 µg/L	2-Chlorotoluene exposures resulted in decrease in body weight gain in rats.
4-Chlorotoluene	140 µg/L	4-Chlorotoluene is expected to have health effects similar to those of 2-chlorotoluene.
Diazinon	1.2 µg/L	Diazinon exposures may result in neurotoxic effects.
Dichlorodifluoromethane [Freon 12]	1 mg/L	Dichlorodifluoromethane exposures resulted in reduced body weight in rats.
1,4-Dioxane	1 µg/L	1,4-Dioxane exposures resulted in cancer, based on studies in laboratory animals.
Ethylene Glycol	14 mg/L	Ethylene glycol exposures resulted in kidney toxicity in rats.
Formaldehyde	100 µg/L	Formaldehyde exposures resulted in reduced weight gain and histopathology in rats.
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine [HMX]	350 µg/L	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine exposures resulted in liver lesions in rats.

Instructions for Small Water Systems
Revised February 2021

Chemical	Notification Level	Health Effects Language (Optional)
Isopropylbenzene	770 µg/L	Isopropylbenzene exposures resulted in increased kidney weight in rats.
Manganese	500 µg/L	Manganese exposures resulted in neurological effects. High levels of manganese in people have been shown to result in adverse effects to the nervous system.
Methyl Isobutyl Ketone [MIBK]	120 µg/L	Methyl isobutyl ketone exposures resulted in increased kidney and liver weight, and kidney pathology in rats.
Naphthalene	17 µg/L	Naphthalene exposures resulted in decreased body weight in rats.
N-Nitrosodiethylamine [NDEA]	10 ng/L	N-nitrosodiethylamine exposures resulted in cancer in a variety of laboratory animals.
N-Nitrosodimethylamine [NDMA]	10 ng/L	N-nitrosodimethylamine exposures resulted in cancer in a variety of laboratory animals.
N-Nitrosodi-n-propylamine [NDPA]	10 ng/L	N-nitrosodi-n-propylamine exposures resulted in cancer in a variety of laboratory animals.
Perfluorooctanoic Acid [PFOA]	5.1 ng/L**	Perfluorooctanoic acid exposures resulted in increased liver weight and cancer in laboratory animals.
Perfluorooctanesulfonic Acid [PFOS]	6.5 ng/L**	Perfluorooctanesulfonic acid exposures resulted in immune suppression and cancer in laboratory animals.
Propachlor	90 µg/L	Propachlor exposures resulted in decrease in weight gain, decrease in food intake, and relative liver weight increase in rats.
n-Propylbenzene	260 µg/L	Exposures to cumene (isopropylene), a surrogate for n-propylbenzene, resulted in increased kidney weight in rats.
Hexahydro-1,3,5-trinitro-1-3-5-triazine [RDX]	300 ng/L	Hexahydro-1,3,5-trinitro-1-3-5-triazine exposures resulted in liver carcinomas and adenomas in female mice.
Tertiary Butyl Alcohol [TBA]	12 µg/L	Tert-butyl alcohol exposures resulted in cancer in laboratory animals.
1,2,4-Trimethylbenzene	330 µg/L	1,2,4-Trimethylbenzene exposures resulted in increased serum phosphorus levels in rats.

Instructions for Small Water Systems
Revised **February 2021**

Chemical	Notification Level	Health Effects Language (Optional)
1,3,5-Trimethylbenzene	330 µg/L	1,3,5-Trimethylbenzene exposures resulted in increased serum phosphorus levels in rats.
2,4,6-Trinitrotoluene [TNT]	1 µg/L	2,4,6-Trinitrotoluene exposures resulted in urinary bladder transitional cell papillomas and squamous cell carcinomas in female rats.
Vanadium	50 µg/L	Vanadium exposures resulted in developmental and reproductive effects in rats.

** The July 2018 notification levels for PFOA of 14 ng/L and PFOS of 13 ng/L were superseded on August 22, 2019 by new notification levels of 5.1 ng/L for PFOA and 6.5 ng/L for PFOS.

APPENDIX E: Special Language for Nitrate, Arsenic, Lead, Radon, *Cryptosporidium*, Ground Water Systems, and Surface Water Systems

- (A) **Nitrate:** For systems that detect nitrate **above 5 mg/L as nitrogen, but below 10 mg/L as nitrogen**, the following language is REQUIRED:

Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

If a utility cannot demonstrate to the State Water Board with at least five years of the most current monitoring data that its nitrate levels are stable, it must also add the following language to the preceding statement on nitrate:

Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity.

- (B) **Arsenic:** For systems that detect arsenic **above 5 µg/L, but below or equal to 10 µg/L**, the following language is REQUIRED:

While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

- (C) **Lead⁶:** Consistent with 40 CFR section 141.154(d)(1), every Consumer Confidence Report (CCR) must include the lead-specific language shown below. A water system may provide its own educational statement, but only after consulting with the State Water Board.

⁶ All water systems are required to comply with the state Lead and Copper Rule (LCR). Water systems are also required to comply with the federal LCR, and its revisions and corrections. The 2007 Short-term Revisions of the LCR included mandatory language requirements that have not yet been adopted by the State Water Board.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. [NAME OF UTILITY] is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. [Optional: If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.] If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/lead>.

Consistent with the California Code of Regulations, section 64482(c), systems that detect lead above 15 µg/L in more than 5 percent, and up to and including 10 percent, of sites sampled (or if your system samples fewer than 20 sites and has even one sample above the Action Level [AL]), the following language is REQUIRED:

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and/or flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the U.S. EPA Safe Drinking Water Hotline (1-800-426-4791).

- (D) **Radon:** Systems that performed monitoring that indicates the presence of radon in the finished water MUST include the results of the monitoring and an explanation of the significance of the results. The following language MAY be used:

We constantly monitor the water supply for various contaminants. We have detected radon in the finished water supply in ____ out of ____ samples tested. There is no federal regulation for radon levels in drinking water. Exposure over a long period of time to air transmitting radon may cause adverse health effects.

The language below MAY be included if the level of information is helpful.

Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap

water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. You should pursue radon removal for your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that are not too costly. For additional information, call your State radon program (1-800-745-7236, the U.S. EPA Safe Drinking Water Act Hotline (1-800-426-4791), or the National Safe Council Radon Hotline (1-800-767-7236).

- (E) **Cryptosporidium:** Systems that have performed any monitoring for *Cryptosporidium* that indicates that *Cryptosporidium* may be present in the source water or finished water MUST include the results of the monitoring and an explanation of the significance of the results. The following language MAY be used:

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants, small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

- (F) **Groundwater Systems:** For ground water systems that had a treatment technique (TT) violation described in Item S of the document titled “*Instructions for Completing the 2018 CCR for Small Water Systems*”, the following language MAY be used to describe the potential health effects. The U.S. Environmental Protection Agency (EPA) did not provide standard health effect language for these TT violations in the Ground Water Rule; U.S. EPA provided the language in their guidance to water systems.

Inadequately protected or treated water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.

- (G) **Surface Water Systems:** For surface water systems that had a TT violation under the **Surface Water Treatment Rule (SWTR), Interim Enhanced Surface Water**

Treatment Rule (IESWTR), Filter Backwash Recycling Rule (FBRR), or Long-term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR), as described in Item U of the document titled “Instructions for Completing the 2018 CCR for Small Water Systems”, the following language is REQUIRED to describe the potential health effects:

Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

For surface water systems that had a TT violation under the **Long-term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)**, as described in Item U of the document titled “Instructions for Completing the 2018 CCR for Small Water Systems”, the following language MAY be used to describe the potential health effects. U.S. EPA did not provide standard health effect language for these TT violations in the LT2ESWTR; U.S. EPA provided the language in their guidance to water systems.

LT2ESWTR TT Violation and Health Effects Language

LT2ESWTR TT Violation	Health Effects Language
Uncovered and Untreated Finished Water Reservoir	<i>Inadequately protected water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.</i>
Determine and Report Bin Classification	<i>Inadequately treated water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.</i>
Provide or Install an Additional Level of Treatment	<i>Inadequately treated water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.</i>

APPENDIX F: Certification Form (Suggested Format)

Consumer Confidence Report Certification Form

(to be submitted with a copy of the CCR)

(To certify electronic delivery of the CCR, use the certification form on the State Water Board's website at

http://www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/CCR.shtml)

Water System Name:	
Water System Number:	

The water system named above hereby certifies that its Consumer Confidence Report was distributed on _____ (date) to customers (and appropriate notices of availability have been given). Further, the system certifies that the information contained in the report is correct and consistent with the compliance monitoring data previously submitted to the State Water Resources Control Board, Division of Drinking Water.

Certified by:	Name:			
	Signature:			
	Title:			
	Phone Number:	()	Date:	

To summarize report delivery used and good-faith efforts taken, please complete the below by checking all items that apply and fill-in where appropriate:

- CCR was distributed by mail or other direct delivery methods. Specify other direct delivery methods used: _____
- "Good faith" efforts were used to reach non-bill paying consumers. Those efforts included the following methods:
- Posting the CCR on the Internet at www._____
 - Mailing the CCR to postal patrons within the service area (attach zip codes used)
 - Advertising the availability of the CCR in news media (attach copy of press release)
 - Publication of the CCR in a local newspaper of general circulation (attach a copy of the published notice, including name of newspaper and date published)
 - Posted the CCR in public places (attach a list of locations)

Instructions for Small Water Systems

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- Delivery of multiple copies of CCR to single-billed addresses serving several persons, such as apartments, businesses, and schools
- Delivery to community organizations (attach a list of organizations)
- Other (attach a list of other methods used)
- For systems serving at least 100,000 persons:* Posted CCR on a publicly-accessible internet site at the following address: www._____
- For investor-owned utilities:* Delivered the CCR to the California Public Utilities Commission

This form is provided as a convenience for use to meet the certification requirement of the California Code of Regulations, section 64483(c).