EBMUD is pleased to report that in 2017, your drinking water met or surpassed every state and federal public health requirement.

SNOWFLAKE TO THE BAY

In the East Bay, 1.4 million customers rely on high-quality EBMUD water every minute of every day. Almost all of EBMUD's water comes from the 577-square mile watershed of the Mokelumne River on the western slope of the Sierra Nevada. This area is mostly national forest, EBMUD-owned lands and other undeveloped lands little affected by human activity.

The Mokelumne watershed collects snowmelt from Alpine, Amador and Calaveras counties, which flows into Pardee Reservoir near the town of Valley Springs. Three large aqueducts carry water 90 miles from Pardee Reservoir to the East Bay. During times of drought, high water demand, system maintenance or for operational needs, EBMUD may draw water from other watersheds (like the Sacramento River) or from local watersheds here in the East Bay.

EBMUD's skilled employees and network of reservoirs, pipelines, pumps and water treatment plants provide reliable drinking water every day.

HOW WE MANAGE WATER QUALITY

Regardless of the source, all water is treated at one of six EBMUD water treatment plants before it reaches your tap. These treatment plants can filter and process more than 375 million gallons of water daily. EBMUD takes many steps to ensure high water quality including carefully managing and protecting watershed lands and reservoirs, treating the water, operating a complex distribution system, maintaining facilities and addressing customer concerns.

EBMUD samples and tests your water extensively to ensure it is safe to drink. We look for more than 100 substances including microorganisms, pesticides, herbicides, asbestos, lead, copper, petroleum products and by-products of industrial and water treatment processes. More than 20,000 laboratory tests each year ensure the safety of your drinking water.

NEW CHALLENGES, NEW PROGRAMS

Exceptional events during the past few years have challenged water quality experts. These include increased public concern about lead in water after the crisis in Flint, Michigan, and a historic drought with high temperatures and algae blooms, and resulting higher levels of disinfection byproducts in drinking water. To address lead concerns and empower customers, EBMUD began a free lead testing program in spring 2017. With this new program, customers can have a certified lab test their home tap water for lead at no charge. EBMUD also continues to reduce disinfection byproducts with long-term capital improvements that will make water treatment plants more resilient to changes in source water.
WHAT WAS DETECTED AND REPORTED

In 2017, EBMUD treated raw water from multiple sources and consistently provided high-quality drinking water, meeting or surpassing every public health requirement set by the State Water Resources Control Board (State Board) and the U.S. Environmental Protection Agency (USEPA).

The tables on the following pages show the measured amounts of contaminants detected in 2017 or in the most recent year sampling was required. Samples were collected in EBMUD’s source waters, at water treatment plants, in the distribution system or at customers’ taps.

Although EBMUD tests for more than 100 substances, this report only lists those detected at or above the state or federal level required for reporting. In this case, no news is good news!

Table 1 – Regulated for public health

These contaminants are regulated to protect your health. They have maximum contaminant levels, known as primary MCLs, set by the State Board or the USEPA. These levels are set as close to the established public health goals as is economically and technologically feasible.

Table 2 – Regulated for drinking water aesthetics

These contaminants are regulated to maintain aesthetic qualities such as smell, taste and appearance of drinking water. They have maximum contaminant levels, also known as secondary MCLs, set by the State Board.

Table 3 – Unregulated contaminants

The first five listed contaminants must be reported, if detected, under the federal Unregulated Contaminant Monitoring Rule 3 (UCMR3). The last two listed contaminants have state notification levels and water systems are encouraged, but not required, to report results to consumers.

Table 4 – Other parameters of interest to customers

These water measurements, such as pH, hardness and alkalinity, may be of interest to customers.

HOW TO READ THE WATER QUALITY TABLE

Find your location on the map on page 2. Note which water treatment plant(s) serve that area.

1. Go to the table on page 4 to find the contaminant you are interested in. Remember – no news is good news!
2. Column two lists the most recent year the contaminant was tested.
3. Column three lists the state or federal goal. At that amount or lower, there is no known or expected risk to health from the contaminant’s presence in drinking water. Not all listed contaminants have state or federal goals.
4. Column four notes the highest amount that the State Board or the USEPA allows. This amount is usually not as low as the public health goal in column three.
5. Column five lists the average amount detected across the EBMUD service area or at designated locations.
6. Find the column that corresponds to the water treatment plant or plants that serve you. This is the amount of the contaminant detected in your area’s water.
7. The last column lists how the contaminant typically gets into your drinking water.

WHERE YOUR WATER IS TREATED

EBMUD’s water system is built to be redundant so customers can count on us to deliver clean drinking water when you need it. Most of our water comes from the Mokelumne River watershed in the Sierra Nevada foothills.

Before reaching your tap, EBMUD water is treated at one of six water treatment plants in the East Bay. Some customers receive water from different treatment plants at different times of the year. The taste and smell of your tap water may change throughout the year because of operational changes (such as when a treatment plant is shut down for maintenance) or due to drought-related changes at the source.
In 2017, your drinking water was consistently the highest quality, surpassing all public health requirement set by the State Water Resources Control Board (State Board) Division of Drinking Water and the U.S. Environmental Protection Agency (USEPA).

### Key Terms

**AL**
- Regulatory action level. The concentration which, if exceeded, triggers treatment or other requirements that a water system must follow.

**DBP**
- Disinfection by-products. These are formed when chlorine and/or other disinfectants react with natural constituents in water. Trihalomethanes (THMs), haloacetic acids (HAA4), chlorate, and bromate are disinfection by-products.

**D/DBPs**
- Disinfection by-products, disinfection residuals and disinfection by-product precursors.

**MCL**
- Maximum contaminant level. The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs or MCLGs as is economically and technologically feasible. Secondary MCLs address odor, taste and appearance of drinking water.

**MCLG**
- Maximum contaminant level goal. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

**MRDL**
- Maximum residual disinfectant level. The level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG**
- Maximum residual disinfectant level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of disinfection to control microbial contaminants.

**NA**
- Not applicable.

**Turbidity (NTU)**
- A measure of the cloudiness of water. Turbidity is monitored because it is a good indication of the effectiveness of our treatment plants. In general, turbidity is an indication of the clarity of the water.

**10th percentile**
- A measure that indicates 90 percent of the samples had a lower result.

### Units

- **ppb**
  - parts per billion.
  - One ppb is like 3 seconds in 100 years. (μg/L)

- **ppt**
  - parts per trillion. One ppt is like 3 seconds in 100,000 years. (ng/L)

- **μS/cm**
  - microsiemens per centimeter, a measure of electrical conductance

### Table 1

<table>
<thead>
<tr>
<th>Regulated for public health</th>
<th>Primary MCL (ppb)</th>
<th>Year sampled</th>
<th>State or federal MCL (ppb)</th>
<th>Highest amount allowed (ppb)</th>
<th>System average</th>
<th>Water quality report</th>
<th>Typical sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Coliform</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State rule</td>
<td>2017</td>
<td>0</td>
<td>5%</td>
<td>NA</td>
<td>Not detected</td>
<td>More than 4,500 samples from the distribution system</td>
<td></td>
</tr>
<tr>
<td>Federal rule</td>
<td>2017</td>
<td>NA</td>
<td>5</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Turbidity (NTU)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>NA</td>
<td>1</td>
<td>1</td>
<td>0.03</td>
<td>0.02 – 0.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aluminum (ppb)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>NA</td>
<td>95%</td>
<td>0.3</td>
<td>100%</td>
<td>&gt;99.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Chlorine as chlorine</strong> (ppb)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>10</td>
<td>0.2</td>
<td>15</td>
<td>0.4</td>
<td>0.05 – 0.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control of DBP precursors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>NA</td>
<td>TT</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<td></td>
</tr>
</tbody>
</table>

### Table 2

<table>
<thead>
<tr>
<th>Regulated for drinking water aesthetics</th>
<th>Secondary MCL (ppt)</th>
<th>Year sampled</th>
<th>State or federal MCL (ppb)</th>
<th>Highest amount allowed (ppb)</th>
<th>System average</th>
<th>Water quality report</th>
<th>Typical sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aluminum (ppb)</strong></td>
<td>2017</td>
<td>200</td>
<td>5</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Chloride (ppm)</strong></td>
<td>2017</td>
<td>250</td>
<td>8</td>
<td>3 – 9</td>
<td>4 – 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Color (color units)</strong></td>
<td>2017</td>
<td>15</td>
<td>3</td>
<td>3 – 3</td>
<td>3 – 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Chlorate (ppb)</strong></td>
<td>2013-2015</td>
<td>NA</td>
<td>75</td>
<td>47 – 190</td>
<td>39 – 58</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 3

<table>
<thead>
<tr>
<th>Unregulated contaminants</th>
<th>No established MCL (ppt)</th>
<th>Year sampled</th>
<th>State or federal MCL (ppb)</th>
<th>State notification level</th>
<th>System average</th>
<th>Water quality report</th>
<th>Typical sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chlorine (ppb)</strong></td>
<td>2013-2015</td>
<td>NA</td>
<td>184</td>
<td>74 – 220</td>
<td>84 – 260</td>
<td></td>
<td></td>
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<tr>
<td><strong>Copper (ppb)</strong></td>
<td>2013-2015</td>
<td>NA</td>
<td>0.05</td>
<td>0.04 – 0.4</td>
<td>0.03 – 0.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Iron (ppb)</strong></td>
<td>2013-2015</td>
<td>NA</td>
<td>1</td>
<td>&lt;1 – 2</td>
<td>&lt;1 – 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vanadum (ppb)</strong></td>
<td>2013-2015</td>
<td>50</td>
<td>0.7</td>
<td>0.2 – 0.4</td>
<td>0.2 – 0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Chlorurate (ppb)</strong></td>
<td>2013-2015</td>
<td>800</td>
<td>106</td>
<td>66 – 79</td>
<td>47 – 140</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes

- **10th percentile** = 69
- 0 out of 55 sites were above the regulatory action level

**NOTES**

a) See page 7 for additional information about fluoride in drinking water.

b) 37% schools requested lead testing. See Page 9 for additional information about lead in drinking water.

c) Highest starting annual average.

d) Chloramine residuals in the distribution system are measured as an equivalent quantity of chlorine. When the chlorine residual cannot be detected, the sample is further analyzed to ensure that microbiological water quality is in compliance with regulations.

e) Compliance is determined based on the highest national average annual result.

Water treatment plant values show the range of individual sample results. This table includes results that are not applicable.

f) By-product of drinking water disinfection.

- By-product of drinking water disinfection.

- By-product of drinking water disinfection.

- By-product of drinking water disinfection.

- By-product of drinking water disinfection.

- By-product of drinking water disinfection.

- By-product of drinking water disinfection.

- By-product of drinking water disinfection.

- By-product of drinking water disinfection.
WATER QUALITY REGULATIONS

This report reflects changes in drinking water regulatory requirements during 2017. In order to ensure that tap water is safe to drink, the USEPA and the State Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. California Department of Public Health (CDPH) and United States Food and Drug Administration regulations establish limits for contaminants in bottled water that provide protection for public health. Additional information on bottled water is available on the CDPH website at www.cdphe.ca.gov/Programs/CEH/DFDCS/Pages/FDBPrograms/InformationOnBottledWater.aspx. 

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include: Microbial contaminants, such as viruses, bacteria and protozoa; such as Cryptosporidium, that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming. Pesticides and herbicides that may come from a variety of sources, such as agriculture, urban stormwater runoff and residential uses. Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, agricultural application and septic systems. Radioactive contaminants that can be naturally occurring or be the result of oil and gas production and mining activities.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects is available online at www.epa.gov/grounderwater-drinking-water. Contact your healthcare provider or visit the Centers for Disease Control and Prevention’s guidelines on using tap water for health or medical purposes.

Populations with low resistance
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and some infants can be particularly at risk from infections. People who may have weakened immune systems, or other illness, should consult their healthcare provider or visit the Centers for Disease Control and Prevention’s guidelines on using tap water for health or medical purposes.

Cryptosporidium
Cryptosporidium is a microbial contaminant found in surface water throughout the United States. Although filtration is highly effective in removing Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring in 2017 indicates no presence of these organisms in our source water. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at risk of developing life-threatening illness. We encourage these individuals to consult their physician regarding appropriate precautions to take to avoid infection.

Fluoridation
EBMUD is required by state law to add fluoride to drinking water to help prevent dental decay in consumers. Current regulations require fluoride levels in the treated water be maintained between 0.6 to 1.2 ppm with an optimum dose of 0.7 ppm. Our monitoring showed that fluoride levels in treated water distribution system averaged 0.7 ppm. According to the American Dental Association and CDC, it is safe to drink optimally fluoridated water for preventing infant formula. If an infant is primarily fed infant formula prepared with fluoridated water, there may be an increased chance for mild enamel fluorosis, but enamel fluorosis does not affect the health of the infant or the health of the infant’s teeth. To lessen this chance, desalted, purified, distilled or demineralized bottled water can be used.

Lead testing in schools
In early 2017, the State Board issued amendments to the domestic water quality permit of community water systems including EBMUD. The amendments allow schools that are served by a public water system to request water sampling for lead and receive technical assistance if elevated lead levels are found. In 2017, Governor Jerry Brown signed AB 746 which is effective January 1, 2018 and requires community water systems like EBMUD to provide lead testing of drinking water at public kindergarten through 12th grade schools, and preschools and child care facilities located on public school property constructed prior to 2010. This mandatory schools testing must be completed by July 1, 2019.

The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects is available online at www.epa.gov/grounderwater-drinking-water. Contact your healthcare provider or visit the Centers for Disease Control and Prevention’s guidelines on using tap water for health or medical purposes.

Potassium (ppm) 9.0 – 12.0 9.0 – 12.0 9.0 – 12.0 9.0 – 12.0 9.0 – 12.0 9.0 – 12.0

Alkalinity, carbonate as CaCO3 (ppm) 8 2 – 3 5 – 7 <0.1 <0.1 <0.1

pH (pH) 9.0 – 9.4 8.8 – 9.4 9.0 – 9.4 9.0 – 9.4 9.0 – 9.4 9.0 – 9.4

Alkalinity, bicarbonate as CaCO3 (ppm) 10 – 42 13 – 46 11 – 24 70 76 76

Dental Association and CDC, it is safe to drink optimally fluoridated water for preventing infant formula. If an infant is primarily fed infant formula prepared with fluoridated water, there may be an increased chance for mild enamel fluorosis, but enamel fluorosis does not affect the health of the infant or the health of the infant’s teeth. To lessen this chance, desalted, purified, distilled or demineralized bottled water can be used.

If you have additional questions about fluoride, contact your health provider. Additional information can be found at www.waterboards.ca.gov/drinking_water/certification/drinkingwater Fluoridation.shtml or www.cdc.gov/fluoridation/websites.
HOW TO CONTACT EBMUD

For more information about water quality or to report a water quality concern, call 866-403-2683 or visit www.ebmud.com/waterquality.

If you would like this report mailed to you, email customerservice@ebmud.com or call 510-986-7555. View this report online at www.ebmud.com/wqr.

EBMUD encourages public participation in decisions affecting drinking water quality and other matters at its Board of Directors meeting held the second and fourth Tuesdays of each month at 1:15 pm, 375 Eleventh Street, 2nd Floor, Oakland.

EBMUD has a seven-member Board of Directors publicly elected from wards within the EBMUD service area. See www.ebmud.com/board.

General Manager
Alexander R. Coate

ADDITIONAL CONTACTS

State Water Resources Control Board
Division of Drinking Water • 510-620-3463

Alameda Public Health Department • 510-267-8000

Contra Costa Public Health Department • 925-313-6712

This is important information about your drinking water. Translate it, or speak with someone who understands it.

Este documento contiene información importante sobre el agua potable que usted consume. Tradúzcalo o hable con alguien que lo entienda.

これは、あなたの飲料水に関する重要な情報を提供します。翻訳するか、理解できる方にご相談ください。

Ovo je važna informacija o pijacoj vodi. Prevedite je, li razgovarajte s nekim ko je razume.

These are the reenforcements important concerning your water usage. Traduz-los ou fale con alguém que o comprenda.

Este documento contém informações importantes sobre a sua água para consumo. Traduza-o ou fale com alguém que o compreenda.

Queste sono informazioni importanti sulla vostra acqua potabile. Fatele tradurre o paratela con qualcuno in grado di comprenderle.