# ANNUAL WATER QUALITY REPORT 2015

**Throughout this report customers will be able to find useful information specifically related to the City of San Bruno water system, as well as information related to drinking water in general. The primary mission of this report is to summarize the past year's water quality data. You will also find valuable information about the City's current operations as well as future changes and improvements to the water system. The City of San Bruno continues its commitment to provide you with safe, high quality drinking water.**

## OUR DRINKING WATER SOURCES AND TREATMENT

*The water supply for the City of San Bruno is derived from two sources. Approximately 50% of the daily water demand comes from four of the City's groundwater wells, the other half is purchased from the San Francisco Public Utilities Commission (SFPUC).*

Supplied by the San Francisco Regional Water System (SFRWS), which is owned and operated by the San Francisco Public Utilities Commission (SFPUC), our major water source originates from spring snowmelt flowing down the Tuolumne River to storage in the Hetch Hetchy Reservoir. The pristine, well protected Sierra water source is exempt from filtration requirements by the United States Environmental Protection Agency (USEPA) and State Water Resources Control Board's Division of Drinking Water (SWRCB). Water treatment provided by the SFRWS, including disinfection by ultraviolet light and chlorine, corrosion control by adjustment of the water pH value, fluoridation for dental health protection, and chloramination for maintaining disinfectant residual and minimizing disinfection byproduct formation, are all place to meet drinking water regulatory requirements.

The Hetch Hetchy water is supplemented with surface water from two local watersheds. Rainfall and runoff from the 35,000-acre Alameda Watershed in Alameda and Santa Clara counties are collected in the Calaveras and San Antonio reservoirs, and delivered to the Sunol Valley Water Treatment Plant (SVWTP). Rainfall and runoff from the 23,000-acre Peninsula Watershed in San Mateo County are stored in the Crystal Springs, San Andreas, and Pilarcitos reservoirs, and delivered to the Harry Tracy Water Treatment Plant. Beginning in 2015, the SWRCB approved the SFRWS to use surface water collected in Lake Eleanor, Lake Cherry, Early Intake Reservoir and conveyed via the Lower Cherry Aqueduct, and the associated creeks (collectively known as Upcountry Non-Hetch Hetchy Sources, or UNHHS) as an additional drinking water source. The UNHHS water is treated at the SVWTP prior to service to customers. Water at the two treatment plants is subject to filtration, disinfection, fluoridation, and pH adjustment for corrosion control optimization.

As in the past, the Hetch Hetchy Watershed provided the majority of our total water supply, with the remainder contributed by the two local watersheds in 2015.

## WATER SYSTEM OPERATIONS

Effective operation and maintenance of the distribution system ensures that the water maintains its quality as it travels through the system to your tap. The disinfectant residual in the water after treatment prevents the re-growth of microbial organisms during storage and transmission of water in the distribution system. The flushing of City's water mains and rotation of stored supplies also keeps the water fresh and limits the possibility for growth of such organisms.

The San Bruno Water Division conducts a comprehensive water quality assurance program which included the collection of over fifty samples a month throughout our system. These samples are then sent to a state certified laboratory for testing. All samples have tested negative for coliforms and met all water quality standards in 2015.

Other water samples are collected periodically to check for levels of lead and copper, disinfection by-products [trihalomethanes and haloacetic acids – THMs and HAAs] and general physical components as required by state and federal regulations.

The San Bruno Water Division daily maintains water quality at our well facilities, SFPUC turnouts, storage tanks and pump stations throughout the distribution system. These sites are monitored and maintained by City staff and our computerized SCADA (Supervisory Control and Data Acquisition) system that provides our water division managers with continuous automated water quality information.

In addition, The City of San Bruno Water Division, along with the San Mateo County Environmental Health Department administers and manages a cross-connection prevention program to eliminate possible contamination to our drinking water through backflow prevention devices. The program includes yearly testing of all city-owned backflow devices and monitoring of compliance on privately owned back flow devices*.

**** A note to residents and business owners who have backflow prevention devices: State regulations require that all backflow prevention devices be tested annually by a certified inspector.***

## PROTECTING OUR WATERSHEDS

The SFPUC conducts watershed sanitary survey for Hetch Hetchy source annually and local water sources every five years. The latest 5-year local sanitary survey was done in 2010. In 2015, a special watershed sanitary survey for the upcountry water sources including Cherry Creek, Eleanor Creek, and Lower Cherry Aqueduct was completed as part of the SFPUC's drought response plan efforts. These surveys evaluate the sanitary condition, water quality, potential contamination sources, and the results of watershed management activities, and were completed with support from partner agencies including the National Park Service and US Forest Service.

These surveys have identified wildlife, stock, and human activities as potential contamination sources. The reports are available for review at the San Francisco District office of SWRCB (contact phone number: 510-620-3474).

## WATER QUALITY

The SFPUC's Water Quality Division (WQD) regularly collects and tests water samples from reservoirs and designated sampling points throughout the system to ensure the water delivered to you meets or exceeds federal and state drinking water standards. In 2015, WQD staff conducted more than 47,500 drinking water tests in the transmission and distribution systems. This is in addition to the extensive treatment process control monitoring performed by our certified operators and online instruments.

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. In order to ensure that tap water is safe to drink, the USEPA and SWRCB prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. SWRCB regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

## CONTAMINANTS AND REGULATIONS

*The sources of drinking water (both tap water and bottled water) include rivers, lakes, oceans, 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. Such substances are called contaminants, and may be present in source water as:*

**Microbial contaminants**, such as viruses and bacteria 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, which 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**, which can be naturally occurring or be the result of oil and gas production, and mining activities.

More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline 800-426-4791.

## REDUCING LEAD FROM PLUMBING FIXTURES

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. There are no known lead service lines in the SFRWS. We are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. It is possible that lead levels at your home may be higher than at others because of plumbing materials used in your property.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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. If you are concerned about lead levels in your water, you may wish to have your water tested. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the ***USEPA's Safe Drinking Water Hotline 800-426-4791, or at www.epa.gov/safewater/lead.***

## SPECIAL HEALTH NEEDS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people, and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the ***USEPA's Safe Drinking Water Hotline 800-426-4791 or at www.epa.gov/safewater.***

## FLUORIDATION AND DENTAL FLUOROSIS

Mandated by State law, water fluoridation is a widely accepted practice proven to be safe and effective for preventing and controlling tooth decay. The SFPUC's fluoride target level in the water is 0.7 milligram per liter, consistent with the May 2015 State regulatory guidance on the new optimal fluoride level. Infants fed formula mixed with water containing fluoride at this level may still have a chance of developing tiny white lines or streaks in their teeth. These marks are referred to as mild to very mild fluorosis, and are often only visible under a microscope. Even in cases where the marks are visible, they do not pose any health risk. CDC considers it safe to use optimally fluoridated water for preparing infant formula. To lessen this chance of dental fluorosis, you may choose to use low-fluoride bottled water to prepare infant formula. Nevertheless, children may still develop dental fluorosis due to fluoride intake from other sources such as food, toothpaste and dental products.

Contact your health provider or SWRCB if you have concerns about dental fluorosis. For additional information about fluoridation or oral health, visit the SWRCB website ***www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml***, and search for fluoride, or the CDC website ***www.cdc.gov/fluoridation.***

## BAY TUNNEL AND NEW IRVINGTON TUNNEL PROJECTS

These new SFPUC's facilities were brought into service in 2015 and have strengthened the seismic reliability of the SFRWS by providing crucial system redundancies. They are part of the SFPUC's Water System Improvement Program, a 4.8 billion dollar investment in capital projects that strengthen our ability to provide reliable, high-quality water to 2.6 million customers, even after a natural disaster.

## KEY WATER QUALITY TERMS

Following are definitions of key terms referring to water quality standards and goals noted on the adjacent data table.

**Public Health Goal (PHG)**: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

**Maximum Contaminant Level Goal (MCLG)**: 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.

**Maximum Contaminant Level (MCL)**: 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 (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

**Maximum Residual Disinfectant Level (MRDL)**: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)**: 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 the use of disinfectants to control microbial contaminants.

**Primary Drinking Water Standard (PDWS)**: MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**Regulatory Action Level**: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Treatment Technique (TT)**: A required process intended to reduce the level of a contaminant in drinking water.

**Turbidity**: A water clarity indicator that measures cloudiness of the water, and is also used to indicate the effectiveness of the filtration system. High turbidity can hinder the effectiveness of disinfectants.

**Cryptosporidium** is a parasitic microbe found in most surface water. The SFPUC regularly tests for this waterborne pathogen, and found it at very low levels in source water and treated water in 2015. However, current test methods approved by the USEPA do not distinguish between dead organisms and those capable of causing disease. Ingestion of *Cryptosporidium* may produce symptoms of nausea, abdominal cramps, diarrhea, and associated headaches. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

# WATER QUALITY DATA FOR YEAR 2015

The table below lists all 2015 detected drinking water contaminants and the information about their typical sources. Contaminants below detection limits for reporting are not shown, in accord with regulatory guidance. The SFPUC holds a SWRCB monitoring waiver for some contaminants and therefore their monitoring frequencies are less than annual.

| DETECTED CONTAMINANTS | Unit | MCL | PHG or (MCLG) | Range or Level Found | Average or [Max] | Major Sources in Drinking Water |
|---|---|---|---|---|---|---|
| **TURBIDITY** | | | | | | |
| Unfiltered Hetch Hetchy Water | NTU | 5 | N/A | 0.2 - 0.5 (2) | [3.1] | Soil runoff |
| Filtered Water from Sunol Valley Water Treatment Plant (SVWTP) | NTU | 1 (3) | N/A | - | [1] | Soil runoff |
| | - | Min 95% of samples ≤ 0.3 NTU (3) | N/A | 97% - 100% | - | Soil runoff |
| Filtered Water from Harry Tracy Water Treatment Plant (HTWTP) | NTU | 1 (3) | N/A | - | [0.14] | Soil runoff |
| | - | Min 95% of samples ≤ 0.3 NTU (3) | N/A | 100% | - | Soil runoff |
| **DISINFECTION BYPRODUCTS AND PRECURSOR** | | | | | | |
| Total Trihalomethanes | ppb | 80 | N/A | 2.2 - 25.4 | [22.6] (4) | Byproduct of drinking water disinfection |
| Haloacetic Acids | ppb | 60 | N/A | .5 - 19.3 | [16.1] (4) | Byproduct of drinking water disinfection |
| Total Organic Carbon (5) | ppm | TT | N/A | 1.4 - 5.2 | 2.1 | Various natural and man-made sources |
| **MICROBIOLOGICAL** | | | | | | |
| Total Coliform (6) | - | NoP ≤ 5.0% of monthly samples | 0 | - | 0 | Naturally present in the environment |
| *Giardia lamblia* | cyst/L | TT | 0 | 0 - 0.08 | 0.01 | Naturally present in the environment |
| **INORGANICS** | | | | | | |
| Fluoride (source water) (7) | ppm | 2.0 | 1 | ND - 0.8 | 0.5 (8) | Erosion of natural deposits; water additive to promote strong teeth |
| Chloramine (as chlorine ) | ppm | MRDL = 4.0 | MRDLG = 4 | 2.16 - 2.33 | 2.32 (9) | Drinking water disinfectant added for treatment |

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|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS WITH SECONDARY STANDARDS** | **Unit** | **SMCL** | **PHG** | **Range** | **Average** | **Range** | **Average** | **Major Sources of Contaminant** |
| Chloride | ppm | 500 | N/A | <3 - 16 | 8.4 | 55 -122 | 85.6 | Runoff / leaching from natural deposits |
| Color | Unit | 15 | N/A | <5 - 5 | <5 | <5 - 5 | <5 | Naturally-occurring organic materials |
| Specific Conductance | µS/cm | 1600 | N/A | 34 - 213 | 144 | 500 - 840 | 676.6 | Substances that form ions when in water |
| Sulfate | ppm | 500 | N/A | 1.2 - 30 | 15 | 23 - 89 | 54 | Runoff / leaching from natural deposits |
| Total Dissolved Solids | ppm | 1000 | N/A | <20 - 93 | 54 | 300 - 500 | 400 | Runoff / leaching from natural deposits |
| Turbidity | NTU | 5 | N/A | 0.1 - 0.3 | 0.1 | ND | ND | Soil runoff |
| Iron | ppm | 0.3 | N/A | N/A | N/A | ND - .03 | 0.0 | Leaching from natural deposits |
| Manganese | ppm | 0.05 | N/A | N/A | N/A | .009 - .036 | 0.016 | Leaching from natural deposits |

| LEAD AND COPPER | Unit | AL | PHG | Range | 90th Percentile | Major Sources in Drinking Water |
|---|---|---|---|---|---|---|
| Copper | ppb | 1300 | 300 | 4.1 - 363.3 (10) | 226.7 | Internal corrosion of household water plumbing systems |
| Lead | ppb | 15 | 0.2 | <1.0 - 10.2 (11) | 3.2 | Internal corrosion of household water plumbing systems |

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|---|---|---|---|---|---|---|---|
| **OTHER WATER QUALITY PARAMETERS** | **Unit** | **ORL** | **PHG** | **Range** | **Average** | **Range** | **Average** |
| Alkalinity (as $CaCO_3$) | ppm | N/A | N/A | 7 - 128 | 30 | 140 - 180 | 167 |
| Boron | ppb | 1000 (NL) | N/A | 103 | 103 | N/A | N/A |
| Bromide(12) | ppb | N/A | N/A | 15 - 24 | 20 | N/A | N/A |
| Calcium (as Ca) | ppm | N/A | N/A | 3 - 18 | 11 | 32 - 59 | 44 |
| Chlorate(13) | ppb | 800 (NL) | N/A | 39 - 280 | 157 | N/A | N/A |
| Hardness (as $CaCO_3$) | ppm | N/A | N/A | 13 - 65 | 42 | 160 - 310 | 230 |
| Magnesium | ppm | N/A | N/A | 0.2 - 5.6 | 3.7 | 20 - 30 | 25.0 |
| pH | - | N/A | N/A | 7.1 - 9.9 | 9.0 | 7.9 - 8.0 | 7.9 |
| Potassium | ppm | N/A | N/A | 0.2 - 0.9 | 0.6 | 3.3 - 3.9 | 3.5 |
| Silica | ppm | N/A | N/A | 3.7 - 5.4 | 4.7 | N/A | N/A |
| Sodium | ppm | N/A | N/A | 2.9 - 19 | 13 | 46 - 65 | 57 |

**KEY:**

| | | |
|---|---|---|
| < / ≤ | = | less than / less than or equal to |
| AL | = | Action Level |
| Max | = | Maximum |
| Min | = | Minimum |
| N/A | = | Not Available |
| ND | = | Non-detect |
| NL | = | Notification Level |
| NoP | = | Number of Coliform-Positive Sample |
| NTU | = | Nephelometric Turbidity Unit |
| ORL | = | Other Regulatory Level |
| ppb | = | part per billion |
| ppm | = | part per million |
| µS/cm | = | microSiemens/centimeter |

Footnotes:

(1) All results met State and Federal drinking water health standards.

(2) These are monthly average turbidity values measured every 4 hours daily.

(3) There is no turbidity MCL for filtered water. The limits are based on the TT requirements for filtration systems.

(4) This is the highest locational running annual average value.

(5) Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only.

(7) In May 2015, the SWRCB recommends a fluoride level in the treated water be maintained at 0.7 ppm. In 2015, the range and average of the fluoride levels were 0.6 ppm - 1.0 ppm and 0.8 ppm, respectively.

(8) The natural fluoride level in the Hetch Hetchy supply was ND. Elevated fluoride levels in the SVWTP and HTWTP raw water are attributed to the transfer of fluoridated Hetch Hetchy water into the reservoirs.

(9) This is the highest running annual average value.

(10) The most recent Lead and Copper Rule monitoring was in 2013.**0** of **36** site samples collected at consumer taps had copper concentrations above the AL.

(11) The most recent Lead and Copper Rule monitoring was in 2013.**0** of **36** site samples collected at consumer taps had lead concentrations above the AL.

(12) Bromide was detected in HTWTP effluent only. If you do not receive HTWTP water in 2015, you may exclude this contaminant from this table.

(13) The detected chlorate in the treated water is a degradation product of sodium hypochlorite used by the SFPUC for water disinfection.

Note: Additional water quality data may be obtained by calling the **City of San Bruno Water Division** 650-616-7162

## WATER CONSERVATION TIPS:

1. Install a low flow showerhead and take 5-minute or less showers. Free showerheads and timers available.
2. Catch water in a watering can or a bucket while waiting for water to get hot.
3. Replace your toilet with a high-efficiency model or put a water displacement bag in each toilet tank. Rebates are available for qualifying high-efficiency toilets.
4. Fix all leaky toilets, faucets and pipes. Install low flow faucet aerators in the kitchen and bathroom. Free low flow aerators are available.
5. Scrape plates and run the garbage disposal less frequently. Compost food scraps instead.
6. Turn off the water while brushing your teeth and shaving.
7. Run only full loads in dishwashers and clothes washers. Replace these appliances with water efficient machines. Rebates are available for qualifying high-efficiency clothes washer models.
8. Water lawns/landscaping between 8:00 pm and 10:00 am. Be sure not to over water landscaping. Check and adjust sprinkler heads seasonally. Plant drought-tolerant and native plants. Lawn-Be-Gone rebates available.
9. Use a carwash facility or use a bucket of water and one short rinse to wash your car; wash on a permeable surface (grass or gravel).
10. Sweep (never hose) driveways, patios and sidewalks.

You can pick-up free water saving devices at City Hall's Public Services Counter, Monday-Friday, 8:00 am-5:00 pm: Showerheads, faucet aerators, shower timers, toilet leak tablets, and garden and landscaping guides. Rebates are available for high efficiency toilets, clothes washers, and Lawn-BE-Gone. For additional information about the rebates, drought and conservation tips go to the City of San Bruno's website at **www.sanbruno.ca.gov** and Bay Area Water Supply and Conservation Agency's website at **www.bawsca.org**.

## HOW CAN THE PUBLIC BE INVOLVED?

City of San Bruno Council meetings begin at 7:00 PM on the second and fourth Tuesdays of each month and are open to the public. Meetings are held at the San Bruno Senior Center located at 1555 Crystal Springs Road.

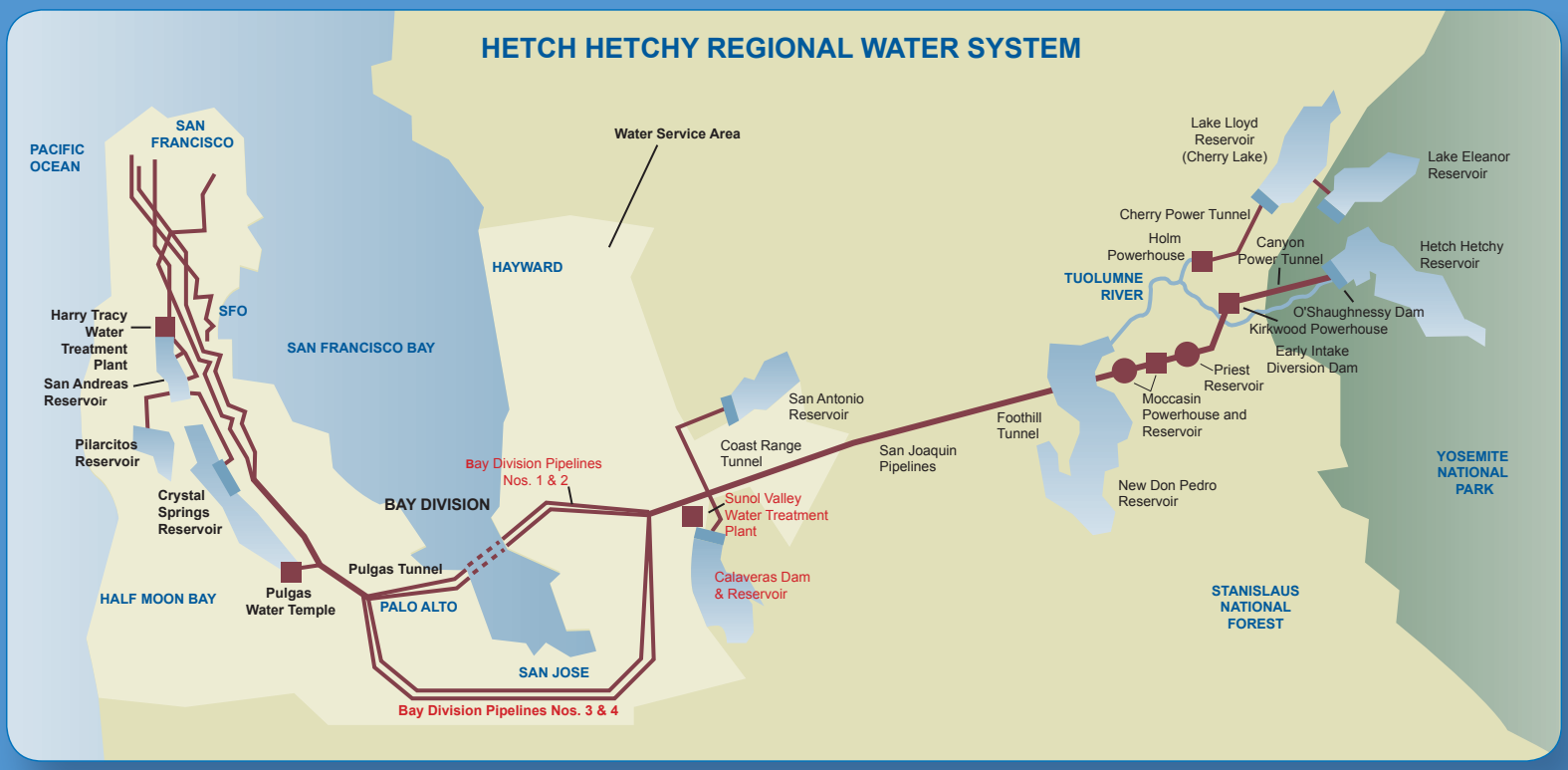
If you have any questions or need further information, please feel free to contact the City of San Bruno Water Division at (650) 616-7162, or by mail at City of San Bruno Water Division, 567 El Camino Real, San Bruno, CA 94066-4247. A copy of the 2015 Consumer Confidence Report will also be posted on the City's website at www.sanbruno.ca.gov.

**This report contains important information about our drinking water. Translate it, or speak with someone who understands it.**

**Este informe contiene información muy importante sobre su agua potable Tradúzcalo o hable con alguien que lo entienda bien.**

**此份水質報告，內有重要資訊。請找他人為你翻譯和解說清楚。**

567 El Camino Real
San Bruno, CA 94066




**City of San Bruno**
**Public Works Department**
**Water Division**

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