



# Taste and Odor in Drinking Water

## GENERAL OVERVIEW

The San Francisco Public Utilities Commission (SFPUC) manages a complex water supply system from the Sierra Nevada to San Francisco that includes reservoirs, tunnels, pipelines, and treatment systems. Depending on the time of year, the SFPUC may change water sources from one reservoir to another or use different treatment facilities to manage water supplies, adjust for water demand, and accommodate annual maintenance. These water supply changes can occasionally cause a noticeable change in the taste and odor of tap water. Taste and odor issues are not considered to be a concern for human health but are used to assess the aesthetic quality of drinking water. All of SFPUC's provided tap water meets or surpasses the U.S. Environmental Protection Agency (EPA) and state standards.

## SOURCES OF TASTE AND ODOR

Unusual or objectionable taste and odors may be due to the following:

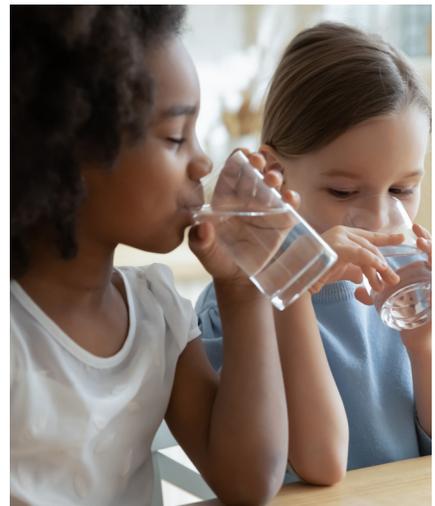
- **EARTHY/MUSTY:** The most common reason for taste and odor issues in San Francisco water are algae blooms in local reservoirs. This is a seasonal issue that normally occurs when source water begins to warm due to consistently warm weather. Warmer water provides ideal conditions for algae to grow. An increase in naturally occurring algae in the source water reservoirs can cause a fishy or earthy/musty odor in the drinking water. Although the odor may be unpleasant, the quality of the water is not compromised, and the water is safe to drink.
- **BLEACH-LIKE/MEDICINAL:** If you experience a bleach-like or medicinal taste and/or odor, this is due to pre-planned adjustments in the addition of chlorine-based disinfectant to the water or temporary feed system. Water disinfection is necessary to maintain the water quality and prevent illness. Adjustments in water disinfection are a standard water utility practice used to maintain water quality. The amounts of disinfectants that are used are approved by the EPA and meet the regulatory limits.
- **GENERAL CHANGE IN T&O:** Sensitive individuals sometimes notice a subtle change in the taste and odor of the water that is caused by a change in the source of the water in the SFPUC's system. SFPUC's sources of water include Hetch Hetchy Reservoir (HHR) in Yosemite National Park and local reservoirs in the East and West Bay. The local reservoirs typically have a higher hardness and total dissolved solids than the water from HHR which sensitive individuals may detect when the system is solely supplied by the local reservoirs.

## MONITORING T&O IN DRINKING WATER SUPPLIES

SFPUC monitors taste and odor of drinking water by measuring algae that cause fishy or earthy/musty flavor, even when present in very small amounts. Additionally, SFPUC monitors secondary maximum contaminant levels (MCLs) related to taste and odor; e.g., threshold odor number (TON) and total dissolved solids. Laboratory measurements of flavor profile analysis (FPA) are routinely done to assess the flavor of drinking water.

## HOW CAN I REMOVE TASTE AND ODOR FROM MY TAP WATER?

Activated carbon that is used in household water filters is commonly used to adsorb taste and odor compounds. Also, you can boil the water to prepare a hot drink, or meal, and add an orange or lemon to cold water to decrease the taste or odor.



## TREATMENT

SFPUC's treatment methods for removing taste and odor include the use of oxidants, chlorine, powdered activated carbon, and ozone. In the water distribution system, SFPUC controls bleach-like/medicinal flavor by maintaining a stable chloramine concentration. Chloramine has a lower taste and odor than other forms of chlorine.

## HEALTH CONSIDERATIONS

Taste and odor issues are not considered to be a concern for human health but are used to judge the aesthetic quality of drinking water. Secondary MCLs are used by public water systems to ensure the aesthetic quality of drinking water such as odor, taste and appearance. To learn more about specific information regarding drinking water standards, please refer to the U.S. EPA website <http://water.epa.gov/drink/contaminants/secondarystandards.cfm>.

## REFERENCES:

- US EPA: "Secondary Maximum Contaminant Levels"  
<http://water.epa.gov/drink/contaminants/secondarystandards.cfm>
- State Water Resources Control Board: "Secondary Maximum Contaminant Levels"  
[https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/documents/ddw\\_secondary\\_standards.pdf](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/ddw_secondary_standards.pdf)
- SFPUC: "Annual Report"  
<https://www.sfpuc.org/accounts-services/water-quality/annual-water-quality-reports>

**We're Committed to Quality:** Our highly trained chemists, technicians and inspectors consistently monitor the water we serve—throughout our system, every day of the year. For additional information and materials, please visit [sfpuc.org/waterquality](http://sfpuc.org/waterquality). For questions about YOUR water, please call 311. You can also visit [311.org](http://311.org).

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