San Francisco Groundwater - FAQs

Where does San Francisco's groundwater come from?

The San Francisco Groundwater Supply Project will extract groundwater from the Westside Basin aquifer, which underlies Golden Gate Park and the Sunset District in San Francisco and extends southward to Burlingame in San Mateo County. The Westside Basin is 45 square miles in area. The Project's well depths range from approximately 300 to 450 feet below ground surface.

Is this groundwater safe to drink?

Yes. All wells will produce groundwater that meets all health-based drinking water standards after treatment. Groundwater will be blended in small quantities with the Hetch Hetchy Regional Water System (Regional Water System) supply, and the quality will surpass all drinking water standards set by the California State Water Resources Control Board, Division of Drinking Water, and the United States Environmental Protection Agency. Groundwater from the Westside Basin has been supplying drinking water to Daly City, San Bruno, and South San Francisco for over 60 years.

San Francisco Department of Public Health (SFDPH) has stated, "We believe the evidence is clear that the plan to blend groundwater with surface water supplies will not create any adverse health consequences." SFDPH and SFPUC staff will continue to review emerging scientific, medical, and public health literature relevant to drinking water standard development and applicability.

Do you need to treat the water?

Groundwater produced under the San Francisco Groundwater Supply Project will be high quality and will require only minimal treatment. This treatment includes chlorination and pH adjustment. Sodium hypochlorite (chlorine) will be added to the groundwater to maintain the required level of disinfectant in the City's distribution system. Chlorine is already added for disinfection in our Regional Water System. In addition, the pH of the blended water will be raised by adding sodium hydroxide, as is done throughout the Regional Water System for corrosion control. Finally, blending with Regional Water System water provides additional water quality protection. This approach has been approved by the State Water Resources Control Board, Division of Drinking Water.

Why is San Francisco getting the groundwater blend but the Peninsula gets the pure Hetch Hetchy water (when San Francisco apparently has the rights to Hetch Hetchy)?

Nearly all 2.6 million customers in the Bay Area served by the San Francisco Public Utilities Commission (SFPUC), including roughly 800,000 residents and businesses here in San Francisco, receive a blend of water from 6 reservoirs that make up the Hetchy Hetchy Regional Water System (Regional Water System). On average 85% of our supply is sourced from Hetch Hetchy Reservoir in Yosemite National Park, and the other 15% on average comes from 5 local reservoirs right here in the Bay Area. However, the blend percentages may vary depending on the time of the year and other operational factors.

SFPUC was granted the right to own and operate the Regional Water System, including the Hetch Hetchy facilities in the Sierra Nevada, when the Raker Act was passed by Congress and signed by President Wilson in 1913. Two-thirds of the water we deliver from the system, including water sourced from the Hetch Hetchy Reservoir, is sold to our regional wholesale customers, who in turn pay two-thirds of the cost for operating and maintaining the system.

San Francisco decided to diversify our drinking water sources by supplementing them with local, high quality groundwater. The inclusion of groundwater is the best way to diversify our drinking water supplies and is consistent with matching a local water supply source with its highest and best use. Many of our suburban wholesale customers outside of the City historically have used their local groundwater to supplement their supply from our 6 drinking water reservoirs. Our wholesale customers also have undertaken programs and projects to diversify water supplies. Recycled water, groundwater and water conservation programs and projects are underway throughout our wholesale service area.

Why can't we just use the groundwater when there's an actual emergency?

Incorporating local groundwater into our normal, everyday supply will ensure that we can rely on it when we need it. The San Francisco Groundwater Supply Project wells, pumping and treatment facilities, and pipelines have been the result of a 10+ year implementation process that has included scientific study, environmental review, and extensive community outreach. Constructing the facilities is an important milestone, but they need to be used on a regular basis to be sure they will operate as designed when they are essential. In addition, SFPUC's water system operators must have the training and experience to run the well facilities, which can only be achieved from normal and recurrent use.

How do you decide where to install the wells? And how do you tell if the groundwater there is of good quality?

We have established and currently maintain a groundwater monitoring program for the Westside Basin aquifer to collect groundwater data from various locations and depths. This basin monitoring program includes a network of 45 wells at 19 locations in San Francisco. Over 10 years of monitoring using this network has allowed us to confirm the basin's water quality and select locations for production wells. The monitoring network also allows us to track any changes that might occur once the production wells are operating.

In selecting locations for the production wells, we have avoided areas or land uses that have potential to contribute contaminants. We designed the production wells to be more protective of water quality than the State's well standards. For example, the grout seals for our wells are over 100 feet deep (the State's standard for the seal is only 50 feet).

Finally groundwater samples from the production well locations have been tested for the approximately 180 chemicals and general water quality indicators that are required for all drinking water sources by the State Water Resources Control Board, Division of Drinking Water.

Who will be drinking the groundwater blend?

Beginning in April 2017, the groundwater blend will be served to over half of the City of San Francisco. Groundwater will be blended with water in the Sunset and Sutro reservoirs before entering the distribution system. Distribution of the groundwater blend is based on the elevations and pressure zones of the Sunset and Sutro reservoirs, and the smaller reservoirs and tanks they feed.

Why isn't the whole City getting the groundwater blend?

Variations in elevation throughout the City prevent us from serving the groundwater blend to all parts of San Francisco. The areas that are served by the Sutro and Sunset Reservoirs, and the smaller reservoirs and tanks they feed, are receiving the groundwater blend. The remaining portions of the City are served by the University Mound reservoir and several additional small reservoirs.

How much groundwater will be added to the existing supply?

We will add an average of 1 million gallons of water per day (mgd) of groundwater to the current supply in the first year of the project. This will increase at a rate of approximately 1 mgd per year until we reach the fourth year, when an average of 4 mgd will be pumped from the aquifer and added to the existing supply. San Francisco's water use is on average 60mgd.

Will my tap water taste or smell different with the groundwater in it?

No. The amount of groundwater we will blend with the Regional Water System supply at our reservoirs is a small percentage. This ensures that the resulting water does not have any distinguishable difference in taste or smell from our current tap water.

How will you manage and protect the Westside Basin?

To make sure we responsibly and sustainably manage and protect the Westside Basin, monitoring of the groundwater levels and quality is our top priority. A series of groundwater monitoring wells was installed in 2004 along the Great Highway to collect data on the basin's water levels and quality. In addition we have been collecting data from a network of groundwater monitoring wells surrounding Lake Merced since 2001. We are continuing to monitor these wells as the San Francisco Groundwater Supply Project is put into service, to assess how the basin is responding to the operation of this project. We would adapt our groundwater pumping, if necessary, in response to changes in the aquifer.

Why build new groundwater pipelines instead of connecting the wells to the existing water mains?

By constructing new pipelines to connect the wells to the reservoirs, the groundwater will be transmitted to the reservoirs first, where it will be blended with the Regional Water System supply, and then be distributed via existing water mains to households. This blending strategy will maintain the high quality and consistent taste of the water supply.

The existing water mains in the city transmit water from reservoirs to individual households. If groundwater from the wells were connected directly to existing water mains, the percentage of groundwater in some areas would be higher than in others.