



Bay Area Water Taste Test

November 2024

Summary

Ever since damming Hetch Hetchy Valley in Yosemite National Park, San Francisco leaders have boasted about the quality of their water supply. Restaurants often tout their “Hetch Hetchy” water, conflating one of many storage reservoirs with the principal source of the water (the Tuolumne River). Some tout the water quality as being essential for making superior bagels and brewing great beer and some claim that the water is the best around or even the best anywhere.

This hyperbolic adulation seems unwarranted. San Francisco’s water is good, for sure, but it is not truly special. In a series of double-blind tests conducted between June and October 2024, participants overwhelmingly opined that water from the East Bay and Marin tasted better than San Francisco’s “Hetch Hetchy” water.

The numerical results, summarizing 114 first place votes, are below:

1. East Bay Municipal Utilities District (EBMUD) - 47 votes.
2. Marin Municipal Utilities District (MMWD) - 39 votes
3. San Francisco Public Utilities Commission (SFPUC) – 28 votes

The test was limited to water provided by EBMUD, MMWD and SFPUC – all known to be high quality sources – runoff in the Sierra Nevada and/or local watersheds. Most of California depends on water exported from the Sacramento-San Joaquin Delta and Colorado River, sources assumed to be inferior in taste to the sources tested.

When Hetch Hetchy Valley is restored, San Francisco will still rely primarily on supplies from the Tuolumne River, but the water would be stored in reservoirs at lower elevation with minor differences in quality.

Taste Test Methodology

To design and initiate a taste test, Restore Hetch Hetchy retained a team of graduate students at the University of Colorado as part of a “Capstone” project. The test was conducted in three phases, with slight changes as described below.

1. In June, Restore Hetch Hetchy collected samples at the SFPUC and EBMUD headquarters and at a Mexican restaurant in Larkspur (grouchy staff at the Marin Municipal Water District declined to provide samples for the test!). As with subsequent tests, the samples were

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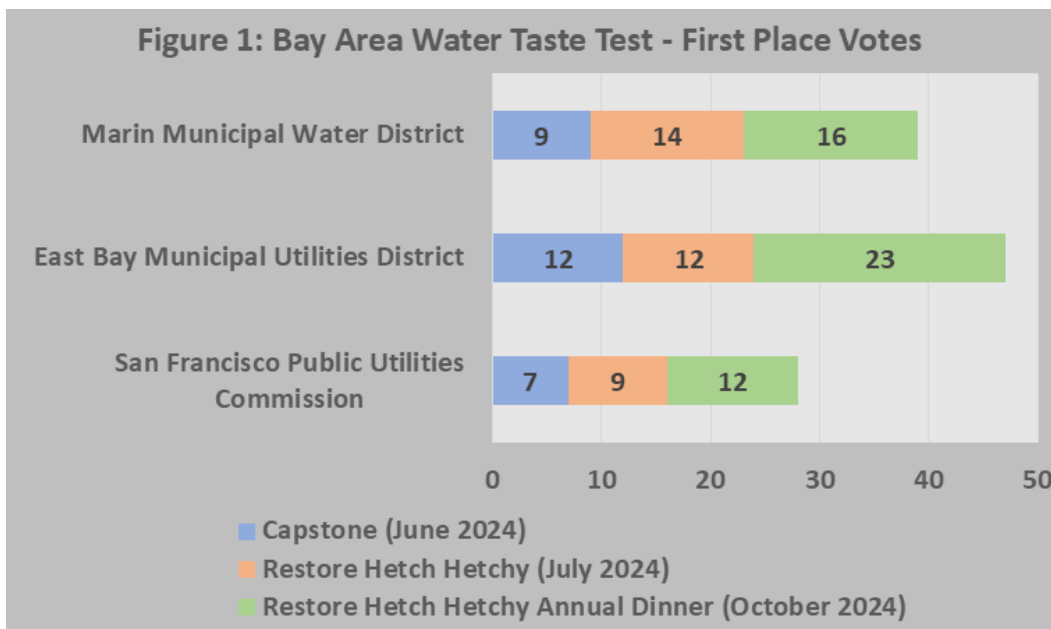
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collected after flushing the pipes, then stored in glass bottles at room temperature. The bottles were given to the graduate students, who were not told which sample was which (a “double blind” experiment is one in which neither the participant nor the person administering the test knows the identity of the samples). The Capstone Team labeled the samples A, B and C , and collected the opinions of passersby at the Rockridge BART station in Oakland. Participants were asked to rank the taste of each supply (ties were allowed if there was no discernable difference). The Capstone Team’s reports – both their [Findings](#) as well as their [Methodology and Recommendations](#) – are posted.

2. In July, samples were collected from private homes in San Mateo County (90% SFPUC water), Oakland (EBMUD) and Fairfax (Marin). The samples were again labeled A, B and C and were offered to passersby at a Safeway in Oakland and in homes. This set of samples was also sent to a lab for analysis – see results for [SFPUC](#), [EBMUD](#) and [Marin](#).
3. In October, samples were collected from the same private homes in San Mateo County, Oakland and Fairfax. The water was offered to people attending Restore Hetch Hetchy’s Annual dinner on October 26 – as soon as they arrived and before they consumed any other food or beverage. To correct for potential bias created by a consistent testing order, the samples were put in blue, green and orange cups and tested in random order.

Results of the three tests varied, as expected, but in each case most participants rated both East Bay and Marin water as superior to that of San Francisco. See Figure 2



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How are these water sources different?

- San Francisco – 85% of San Francisco’s water comes from the Tuolumne River in the Sierra Nevada. Most of this water is delivered (treated with chlorine, ammonia and ultraviolet light etc. but unfiltered) directly to customers, but some is stored in Bay Area reservoirs in San Mateo and Alameda Counties . The local runoff and the Tuolumne River supplies that are stored in Bay Area reservoirs are both filtered and treated before being delivered. San Francisco has also added small amounts of groundwater to make its supplies stretch further. *(In recent years, San Francisco has shut down all imports from the Tuolumne (and Hetch Hetchy) for two months in the winter so it can do critically important maintenance on its Mountain Tunnel. Consumers rarely notice that they are relying entirely on water from local watersheds during these periods and not receiving any “Hetch Hetchy” water.)*
- San Francisco’s customers – San Franciscans themselves consume only about 1/3 of total supply provided by the San Francisco Public Utilities Commission. The other 2/3 of the water is sold to other Bay Area communities, collectively members of the Bay Area Water Supply and Conservation Agency. Menlo Park and Hillsborough, for example, have no source other than that purchased from San Francisco. Half of the water in Half Moon Bay is purchased from San Francisco; the rest is derived from local runoff. Fremont and other cities served by the Alameda County Water Agency rely on San Francisco for only about 30% of their supply, relying on State Water Project and local resources for the rest.
- East Bay Municipal Utilities District – East Bay cities, including Berkeley and Oakland, rely on water imported from the Mokelumne River in the Sierra Nevada (near the Tuolumne River) for most of their supply. EBMUD also harvests runoff in local watersheds and, during dry years, brings in water from its Freeport project on the Sacramento River. EBMUD filters its water supply and treats it with chemicals before delivering it to customers.
- The Marin Municipal Water District gets no water from the Sierra, relying on rain to fill its reservoirs within the county, supplies purchased from the Sonoma County Water Agency, as well as local groundwater. MMWD filters its water supply and treats it with chemicals before delivering it to customers.

What does the lab analysis indicate?

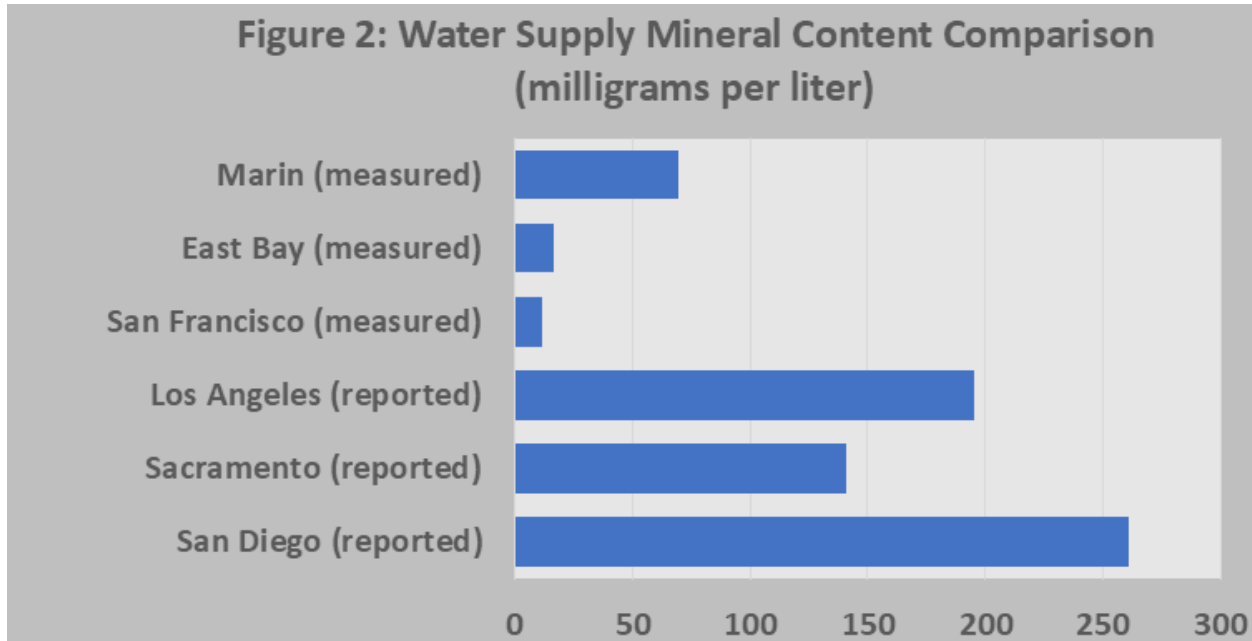
Perhaps the most obvious quantitative difference between these supplies is the “hardness” of the water, i.e. the concentration of minerals, principally calcium and magnesium, measured in milligrams per liter.

San Francisco’s water is particularly soft, i.e. it has little mineral content. Some may prefer soft water, while many complain it has little taste. Note that communities which desalinate water typically add small amounts of calcium and magnesium before distributing supplies to customers.

On the other hand, people tend not to like water with a high mineral content – like most water in southern California.



Water supplies provided by East Bay Municipal Utilities District and the Marin Municipal Water District have relatively low mineral content, but higher than San Francisco. See Figure 3 for a comparison of the mineral content of selected urban water supplies in California.



It is also important to point out that most water utilities deliver a blend of supplies. The precise blend a utility delivers at any given time depends on a number of factors, including time of year, drought year vs. normal year, and maintenance schedules.

Water quality is a complex issue. Safety is paramount and fortunately something urban consumers in California rarely need to worry about. (It's a [different story](#) in many small towns.)

Conclusion

Restore Hetch Hetchy is convinced that the hype over “Hetch Hetchy” water is overstated.

With help and guidance from the Capstone team as described above, we did administer most of the tests ourselves. We welcome all inquiries from any skeptics about the integrity of our test and would also be pleased to cosponsor an independent test with the San Francisco Public Utilities Commission.

When Hetch Hetchy Valley is restored, San Francisco will still rely principally on the Tuolumne River for the majority of its supply. Water will be stored in and diverted from Cherry, Eleanor and Don Pedro Reservoirs – with mineral content perhaps similar to East Bay MUD’s Pardee Reservoir. Maybe customers will like their water even better!