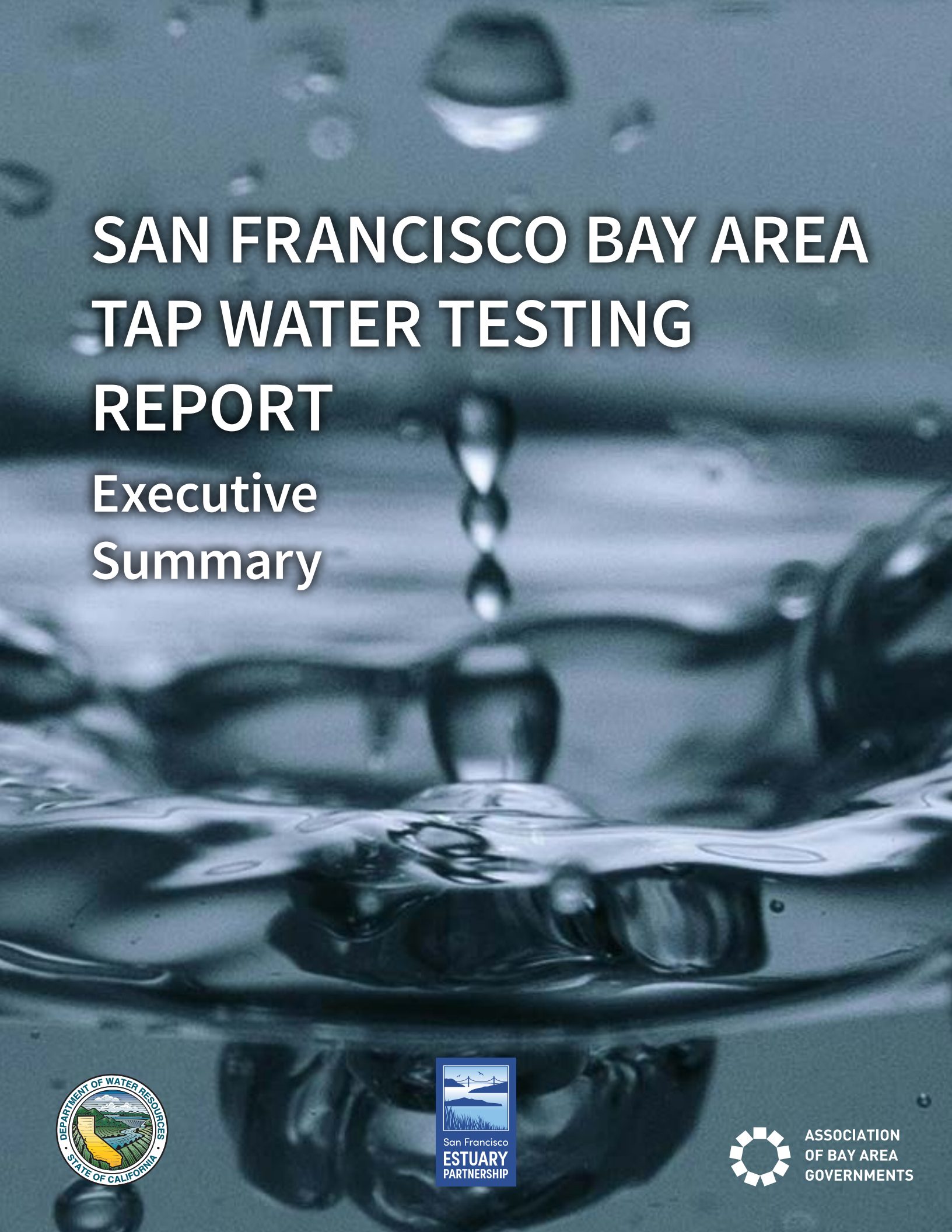

SAN FRANCISCO BAY AREA TAP WATER TESTING REPORT

Executive Summary

DEPARTMENT OF WATER RESOURCES · STATE OF CALIFORNIA ·

San Francisco ESTUARY PARTNERSHIP

ASSOCIATION OF BAY AREA GOVERNMENTS

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Executive Summary

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Introduction

In 2012, California became the first state to recognize that every human being has the right to safe, clean drinking water (AB 685). There is a tremendous amount of work that goes into ensuring tap water meets regulatory standards and is safe to drink in California. However, negative experiences at the tap can lead to increased distrust. How individuals perceive the safety of the water coming out of their tap influences whether they use tap water to quench their thirst or reach for an alternative, such as bottled water or a sugary drink. In turn, distrust of drinking water quality and subsequent reliance on alternative beverage sources can adversely impact individuals' health, welfare, and the environment.

This report details the formation and implementation of a novel Tap Water Testing program, which operated from 2019 to 2022 in the San Francisco Bay Area, to address tap water concerns in local communities. The Tap Water Testing program—including data collection, analysis and interpretation—formed directly from the Disadvantaged Community and Tribal Involvement Program's San Francisco Bay Regional Water Needs Assessment findings, and subsequent requests by Disadvantaged Communities and Tribes to investigate their concerns about their tap water quality. The overall goal of the Disadvantaged Community and Tribal Involvement Program was to support a community-led problem-definition and solutions development processes and to create a more lasting social infrastructure to include Disadvantaged Communities and Tribes into water-related decision-making and planning. This approach served to build the capacity of the participating Outreach Partners—over 15 Disadvantaged Communities and five Tribes—to define their own water-related challenges and develop solutions.

The San Francisco Estuary Partnership and Outreach Partners developed the community-driven Tap Water Testing Program in response to the widespread distrust of tap water documented in the San Francisco Bay Regional Water Needs Assessment. While this testing program was not the first community-driven tap water quality testing program in this region, it is the largest of its kind to be conducted in California to date, to our knowledge.

The Tap Water Testing Program collected and analyzed data about tap water quality in locations where residents reported experiencing tap water quality issues or otherwise expressed distrust in their tap water. To ensure independently verified and scientifically robust results, San Francisco Estuary Partnership and the Outreach Partners partnered with SimpleLab, an independent water quality testing logistics company that connects individuals and groups with certified laboratories to conduct rigorous environmental testing. The project team and SimpleLab worked with each interested community and Tribe to decide which types of tap water quality constituents to test for based on their location, existing water quality data, and specific tap water quality concerns collected in the Regional Needs Assessment. Extensive consultation was also undertaken with local utilities, regulators, and other groups to ensure that this was not a "gotcha" program in which distrust or observed deficiencies in tap water were not immediately framed as a product of utilities or regulators' neglect, but rather a data collection effort envisioned and led by the participating communities and Tribes, and a testing and reporting effort carried out by an independent third party. .

After extensive planning, design, and consultation, the water quality sample collection effort began in

Definitions

Public Health Goals (PHGs): Standards that California's public water systems should strive to achieve if it is feasible to do so. These may not be feasible if technology isn't available to meet the PHG, or if the cost of meeting PHGs would make the water unaffordable.

Primary Maximum Contaminant Levels (MCLs): Water systems are legally required to meet these standards for all potential contaminants. As long as drinking water complies with all MCLs, it is considered safe to drink, even if some contaminants exceed PHG levels. MCLs are supposed to set as close to the PHGs as possible, while taking into account what is economically and technically feasible.

Secondary Maximum Contaminant Levels (Secondary MCLs): Also known as secondary health standards, secondary MCLs are established for aesthetic (taste, feel, appearance) rather than primary health reasons and are enforceable in California, not just advisable.

February 2022 and finished in June 2022. The final dataset included 555 samples and 34,296 tests that looked at 142 distinct drinking water quality constituents of interest. To illustrate the breadth of the effort, this number of co nstituents exceeds the combined number of constituents on the U.S. Environmental Protection Agency's primary and secondary water quality standards lists.

Key quantitative findings from the effort were nuanced but include that:partnered with:

- Approximately 0.08% of tests exceeded primary regulatory standards where they existed (10/12,895).
- Exceedances of much stricter Public Health Goal standards were found to occur in about 5% of all tests where they existed (640/12,946), with a consistent range of 3-6% by community
- About 2% of all tests with relevant secondary (aesthetic) standards exceeded those standards (89/4,565).
- 70 samples were taken and tested for 14 different per- and polyfluoroalkyl substances (PFAS, also known as a forever chemical), 4 of which have response and notification standards. None exceeded any health-related response or even notification level. About 8.6% of the samples, across the four chemicals, had any detection above zero (5/70).

Given the unprecedented scale and community-driven nature of the program, we also identified 11 qualitative overarching lessons learned for future testing programs in the Bay Area and elsewhere. These are:

- Build in flexibility and constantly dialogue with partners
- Communicate and accommodate differences in relative health risk thresholds and regulatory standards
- Develop a program-level framework to drive decision-making but leave decisions about community level implementation to community partners
- Partner with a logistics firm that only utilizes certified labs or partner directly with certified labs for testing

- Assist community partners in deciding what to test for and how to sample – provide context to community partners for this decision-making process
- Tap water education should include technical lessons learned, including for hot water, hot showers, and infrequently used faucets
- Survey efforts should be considered a mandatory part of a program, or not included as part of a testing effort at all, due to the need for robust datasets to inform conclusions
- Expect complications in the testing result interpretation process and be prepared to bring on impartial educators unrelated to the project
- Be ready to address concerning testing results with CBO partners and utilities
- Acknowledge and strategize around legal constraints on current public funding solutions
- Recognize that community-driven efforts can support water providers' aims

We also identified 7 different key stakeholder groups who can and should play a part in future tap water testing efforts and implement these lessons learned. The report contains recommendations for how these groups should be involved in future actions to address the findings in the report. The groups are:

1. concerned residents and community-based organizations;
2. local non-profits, including legal advocacy groups;
3. rental housing property owners and managers;
4. affected water systems;
5. local government decision makers (especially county public health departments);
6. the State Division of Drinking Water, and
7. the research community.

Testing a water sample
Photo courtesy Nuestra Casa

Drinking water quality, and therefore, trust in tap water, is an essential prerequisite to human health, dignity and affordability. The Tap Water Testing Program in the Bay Area highlights the continued need for efforts to be responsive to residents' concerns about and distrust of their tap water in disadvantaged communities. While these efforts may not resolve all concerns quickly, if done well, they can advance a dialogue with residents that helps enhance trust in communities around agency responsiveness to residents' experiences with tap water, as well as increase the level of understanding of tap water quality and drinking water standards. The result of increased trust in—and use of--tap water is worth the effort and supportive of the broader aims of the state's Human Right to Water.

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