

Overview, Drought Planning & Alternative Water Supply Plan

Steven R. Ritchie

October 2024

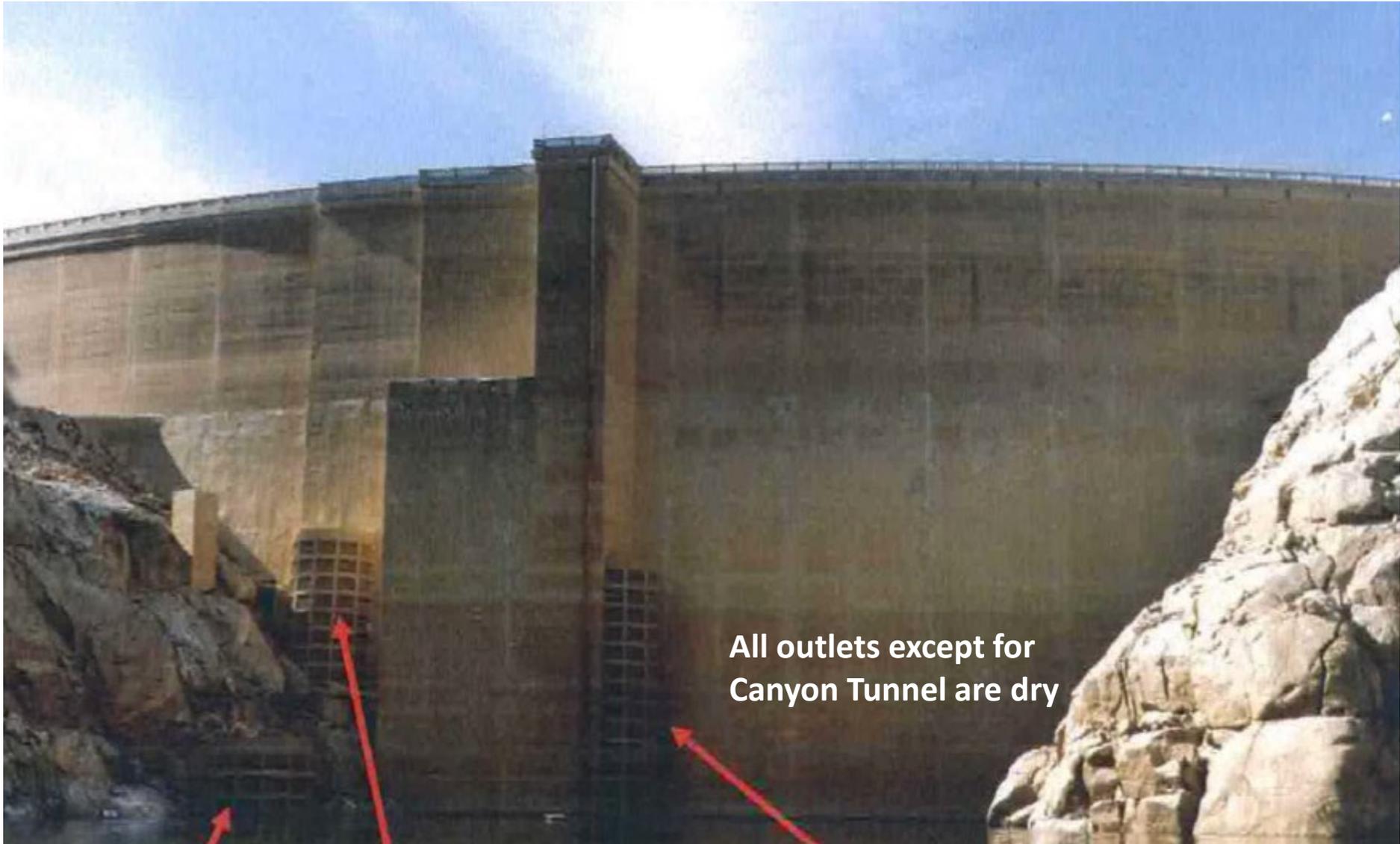
SFPUC Overview and Water Supply (Drought) Planning

- **24/7/365 Perpetual Service:**
 - As a critical public service, we have no end date to our operations.
 - Every day 2.7 million residents and thousands of businesses rely on the Hetch Hetchy Regional Water System for drinking water for public health, fire protection, and all aspects of their daily lives/businesses.
 - 85% of the supply comes from the Tuolumne River, the remaining 15% is from local watersheds and reservoirs.
- **Smart Operations and Drought Planning:**
 - Our daily operations emphasize high water quality and long-term water supply reliability.
 - Having junior water rights on the Tuolumne River means we have rights to very little water in dry years, but plenty of water in very wet years. As a result, we are very reliant on our stored water for reliability.

SFPUC Overview and Water Supply (Drought) Planning

- **Smart Operations and Drought Planning:**
 - Our management decisions and planning are guided by “Water First”, Experience, and Risk Management.
 - **“Water First”:** Water supply is top priority with hydropower generation a secondary consideration.
 - **Experience:** 1987-92 and recent droughts were very real and can be repeated or worse.
 - **Risk Management:** How bad can conditions get, knowing that we cannot operate to zero storage at any point? Zero water in storage means no cushion for the next potential dry water year.
 - **Drought Planning:** We analyze a drought worse than that of 1987-92 by adding two additional dry years.

O'Shaughnessy Dam Upstream Face – March 1991



All outlets except for
Canyon Tunnel are dry

Wise Water Use and Regular Planning

- **Active Conservation Programs:**
 - Both in San Francisco, and, through BAWSCA, regional efforts are always underway to promote conservation and the wise use of water.
- **Among the Lowest Consumption Per Capita in the State**
 - San Francisco currently averages 41 gallons of residential per capita use, and Wholesale Customers average 55.1 gpcd (a 52% decrease since 1975-78 in residential per capita use).
- **Urban Water Management Planning**
 - Every 5 years, all water agencies need to demonstrate that they have enough supply to accommodate anticipated growth over the ensuing 25 years.

Challenges Ahead

- **2018 Adopted Bay-Delta Plan:**
 - Unimpaired flow paradigm and existing agreements may require up to 93 million gallons per day (mgd) of impact to Regional Water System supplies. Healthy Rivers and Landscapes Program is an alternative being considered by the State. It also contains greater instream flow contributions but less than the Bay-Delta Plan.
- **State Actions: Curtailment, Proposed Legislation**
 - Potential impact on water rights.
- **Population Growth and Demand Hardening**
 - Population will continue to grow (e.g. State Housing General Plan Elements). Demand can only be reduced to a certain amount.
- **Climate Change**
 - UMass Amherst Long-Term Vulnerability Study of our system shows shifts for more precipitation as rain than snow, with changes in runoff patterns.

Alternative Water Supply Plan for the Regional Water System

Plan for Obligations, Build for Demands

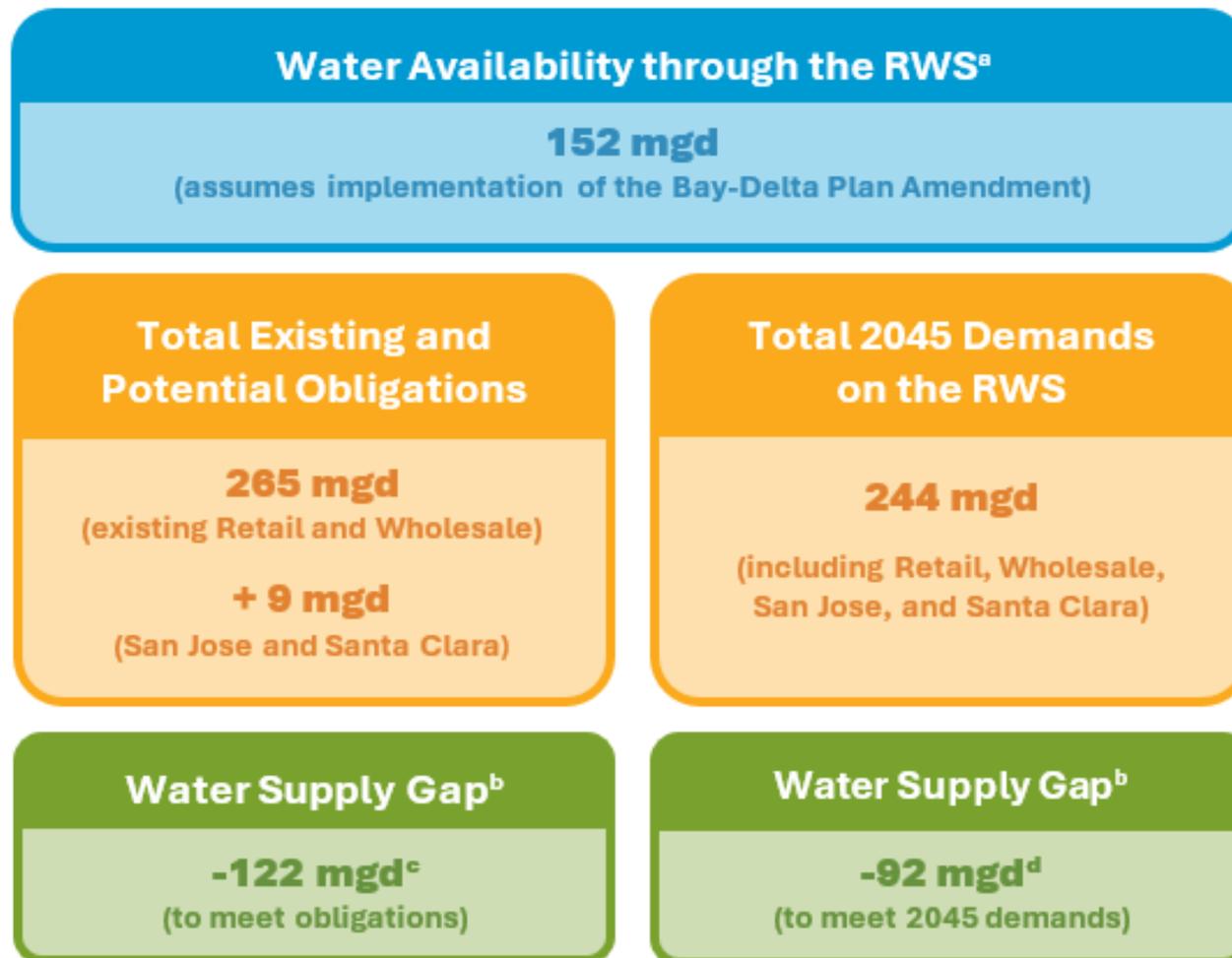
- This plan was requested by both the San Francisco Public Utilities Commission and the BAWSCA Board of Directors.
- This is not an adopted plan.
- It is not a plan to construct any particular project or projects.
- It is a living planning document that gives decision-makers information regarding potential future water supply issues and potential actions to augment the Regional Water System supplies to retain our current, appropriate risk management approach.

Plan for Obligations, Build for Demands

- **Regional Water System Existing and Potential Obligations:**
 - The Supply Assurance of 184 mgd for the Wholesale Customers
 - Supply allocation of 81 mgd for San Francisco
 - San Jose and Santa Clara combined supply assurance of 9 mgd
 - Combined total of 274 mgd
- **Total Regional Water System Demands**
 - 244 mgd based on 2020 Urban Water Management Plans

Plan for Obligations, Build for Demands

Figure 1. Anticipated Water Supply Gap



Alternative Water Supply Projects Throughout the Service Area

1. Daly City Recycled Water Expansion
2. PureWater Peninsula
3. South Bay Purified Water
- 4a. Los Vaqueros Reservoir Expansion (LVE)
- 4b. Supply Alternatives for LVE
- 4c. Conveyance Alternatives for LVE
5. ACWD-USD Purified Water
6. Calaveras Reservoir Expansion



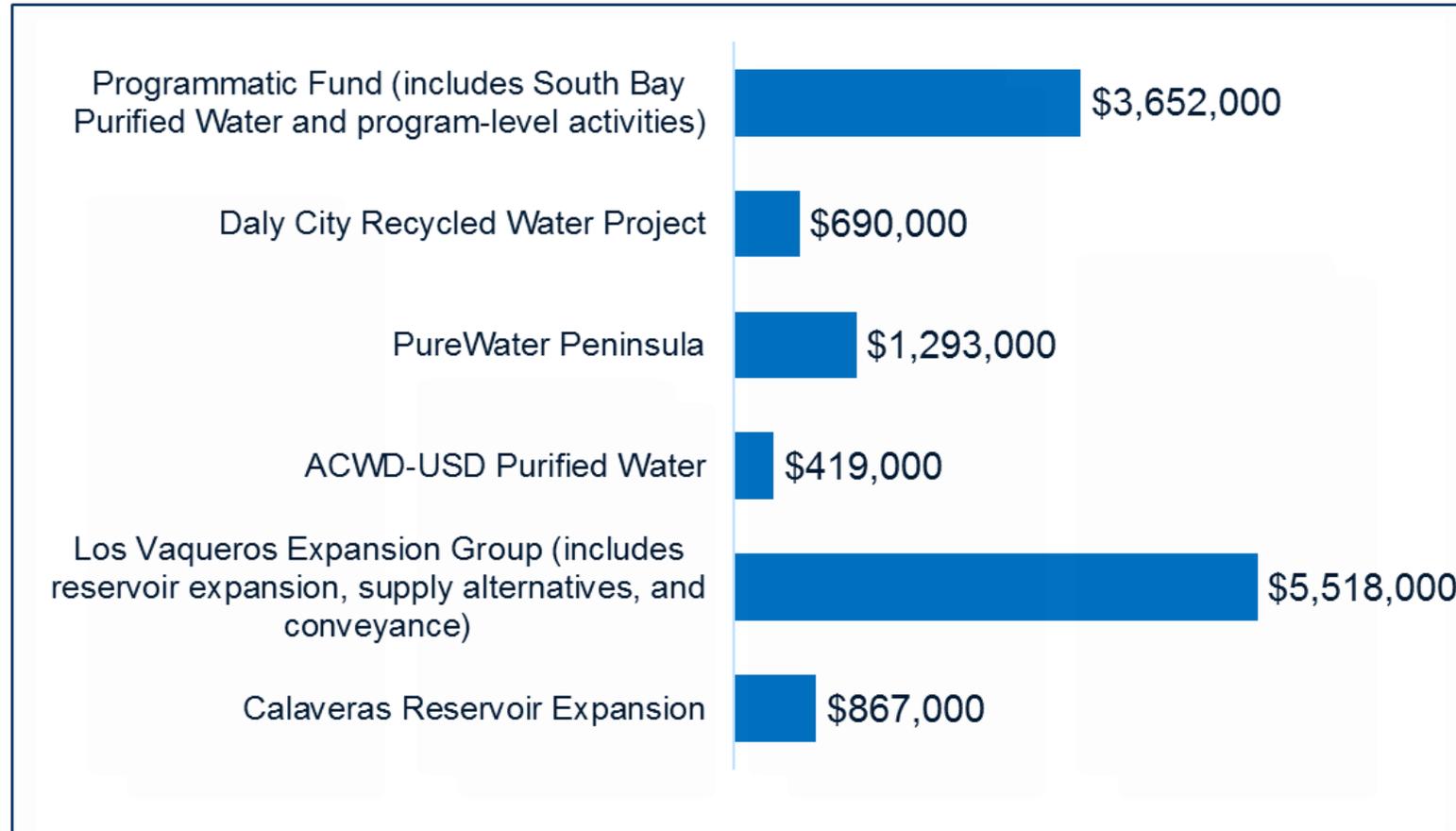
Alternative Water Supply Plan Recommendations and Actions

- **Consider decisions on projects that are close to construction**
 - Los Vaqueros Reservoir Expansion
 - Daly City Recycled Water Expansion
- **Advance the planning of Purified Water Projects**
 - South Bay Purified Water
 - PureWater Peninsula
 - ACWD-USD Purified Water
- **Hire a Purified Water Program Manager**

Alternative Water Supply Plan Recommendations and Actions

- **Further develop supplies from existing and other projects**
 - Regional Groundwater Storage and Recovery Project
 - Alameda Creek Recapture Project
 - San Francisco Groundwater Project
 - PureWaterSF
 - Potential projects with Turlock and Modesto Irrigation Districts
- **Develop additional demand scenarios**
- **Explore the feasibility of a Regional Water System grant program**

Financial Update



Total dollars spent for the AWS Program between July 2020 and May 2024: \$12.4 million

Financial Update

- Earlier this year, the SFPUC approved a 10-year Capital Improvement Plan, including funding for AWS regional project planning. The FY2025-34 CIP totals:
 - **\$1.63 Billion** Regional Water, **\$1.53 Billion** Hetchy Water
 - The AWS Program represents \$260.1M in the 10-year plan
 - In FY24-25 thru FY25-26, \$10.89M in AWS spending is planned.
 - This funding supports Purified Water and Other Studies, Daly City Recycled Water Expansion Project, and South Bay Purified Water Project.

Financial Update

- Delivering our significant CIP takes sound financial planning.
- This includes:
 - Smart infrastructure planning and investment
 - Low-cost debt funding (SRF, WIFIA, Tax-Exempt Bonds)
 - Conservative Financial Policies: Reserve, Debt Coverage, Ratepayer Affordability
 - Numerous proactive audits
 - Setting rates compliant with Prop 218 and the Water Supply Agreement
- As such, we plan our finances to support our infrastructure needs without overly burdening our constituents.

What Is San Francisco Doing In Its Retail Service Area?

Conservation Program

- Robust active conservation program for over 30 years
- Leak Alert Program has resulted in estimated savings of 73 million gallons in FY 2022-23
- Implementing recommendations of independent Pacific Institute review

Groundwater Expansion

- Plans to continue expanding use in drinking water supply (up to 4 mgd)

Onsite Water Reuse

- Established and expanded ordinance since 2012, with 45 systems permitted and 29 planned

Recycled Water Expansion

- Maximizing recycled water use for large-scale irrigation with the construction of the Westside Recycled Water Project

Innovations Program

- Continuing to seek new technologies to generate water savings and supplies at every scale (e.g., atmospheric water generation, efficient point-of-use fixtures)

FYE 2025 Projected Wholesale Rate

Wholesale Rate =

$$\frac{\text{Wholesale Revenue Requirement} - \text{Fixed Fee} \pm \text{Balancing Account}}{\text{Wholesale Volumes}}$$

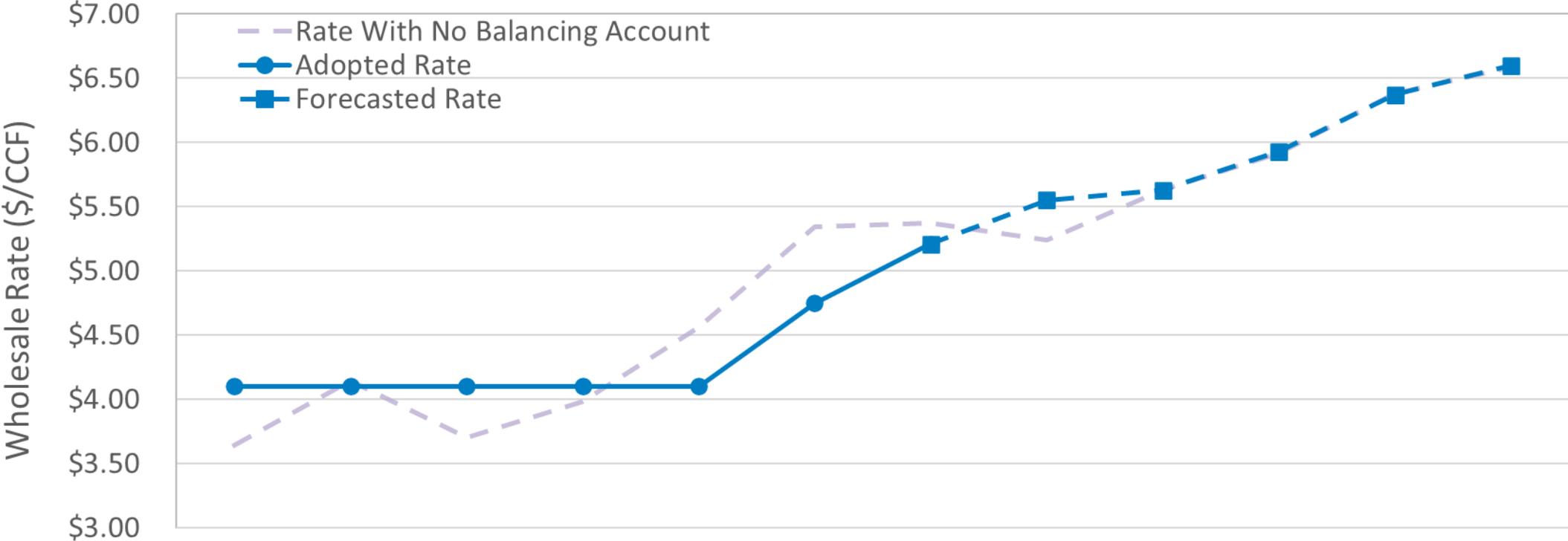
$$\text{FYE 2025 Rate} = \frac{\$327.6M - \$4.3M + \$19.4M}{127.4 \text{ MGD}} = \$5.55/\text{ccf}$$

FYE 2025 Rate Increase = 6.5%

Factors driving rate increase:

- *Growth in capital spending*
- *Continued low water usage*
- *Balancing account being drawn down to make up for deferral in FYE 2024*

Historic and Projected Wholesale Rates



	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029
Adopted / Forecasted Rates	\$ 4.10	\$ 4.10	\$ 4.10	\$ 4.10	\$ 4.10	\$ 4.75	\$ 5.21	\$ 5.55	\$ 5.63	\$ 5.93	\$ 6.37	\$ 6.60
Rate Change	9.3%	0.0%	0.0%	0.0%	0.0%	15.9%	9.7%	6.5%	1.4%	5.3%	7.4%	3.6%
Rate w/o Balancing Account	\$ 3.64	\$ 4.14	\$ 3.70	\$ 3.98	\$ 4.56	\$ 5.34	\$ 5.37	\$ 5.24	\$ 5.63	\$ 5.92	\$ 6.38	\$ 6.59

Questions?

