

# MEMORANDUM (DRAFT)

**TO:** City Council, City of Palo Alto  
**FROM:** Utilities Advisory Commission  
**DATE:** March XX, 2025  
**SUBJECT:** One Water Plan Review and Recommendations

The Utilities Advisory Commission (UAC) has completed its review of the One Water Plan (OWP) and recommends against acceptance of the plan at this time. The following sections outline our key concerns and recommendations for moving forward.

The UAC’s decision not to approve the study, despite acknowledging the considerable staff time and resources invested, stems from fundamental concerns about its analytical framework. Specifically, the methodology and assumptions used in the plan could lead to potentially misleading conclusions about Palo Alto’s water security options. The UAC is happy to meet with Council to discuss its concerns in more detail, which are various. However, to help guide future water planning efforts, this memo focuses on our most critical concerns, which we believe must be addressed to develop a robust and actionable water security framework for Palo Alto: (1) the premise of the report and its recommendations relies on a 50% cut back scenario that seems highly unlikely and must be validated, particularly by engagement with BAWSCA and SFPUC; and (2) the conclusions are based on a weighted scoring scheme that is potentially misleading—instead, the underlying metrics, such as dollar cost per acre-foot, should be directly presented to decision-makers. In addition, the UAC provides several strategic recommendations for the city’s future planning efforts.

Staff has reviewed this letter and agrees that investments in local water supply alternatives are not prudent nor recommended at this time. Staff agrees that evolving demand projects and SFPUC supply reliability assessments will be critical for continued water planning efforts and that regional partnership may, indeed, prove to be most cost-effective if water supply reliability becomes an issue. The tool developed as part of the OWP effort may be modified in subsequent analysis to address the UAC’s concerns regarding the scoring methodology.

## REPORT ISSUES

In this memo, the UAC focuses on two critical issues with the OWP report: (1) the 50% cutback scenario underlies the premise and recommendations of the report, but this scenario seems unlikely and should be validated before using it for water supply planning; and (2) the weighted scoring scheme for the alternatives is potentially misleading.

First, the OWP report plans for a case in which there is a 50% reduction in regional water supply, and it uses this scenario as a key metric in its portfolio evaluation.<sup>1</sup> This assumption warrants further scrutiny and

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<sup>1</sup> E.g., OWP Report at ES-8 (“**Reliability** is scored based on results of the dry year supply analysis for each portfolio using the supply gap expressed in afy during a 50 percent reduction in water deliveries to Palo Alto from the RWS.”),

validation, particularly concerning demand across the broader system, implementation of Bay Delta Plan regulations, and policy and management decisions about storage. Members of the public have noted that historical analysis of Tuolumne River flows over the past 1100 years using tree ring data suggests that the level of drought and demand growth that would require this level of cutback is extremely improbable. During the recent 2001-2022 California mega-drought, SFPUC was able to add to its reservoirs in 15 of the 22 years due to its robust water rights. Second, the Long Term Vulnerability Assessment (LTVA) cosponsored by the SFPUC found no drought in 25,000 years of stochastic modeling that approached the severity of the design drought scenario, and the assessment found no clear adverse impacts from climate change through 2070. Third, the longest historical drought (1471-1483) would have left 40% of system storage remaining at current demand levels. Fourth, probability analysis suggests the design drought scenario has an exceptionally rare return period—potentially one in several hundred thousand years. The UAC also has concerns with the demand forecasts, noting that BAWSCA’s forecasts have consistently over-estimated future regional water demand, often by substantial amounts. **Given that this 50% cut back assumption during drought drives many of the report’s conclusions about needed infrastructure investments and policy changes, a validated and nuanced analysis of potential supply scenarios informed by better planning targets from BAWSCA and SFPUC would significantly strengthen the plan’s utility for decision-making.**

While we understand Staff’s desire to ensure planning processes align with SFPUC’s policies and forecasts, the 50% cutback scenario should not be used in the City’s planning framework without further validation. We recommend that the City engage with SFPUC and BAWSCA to refine supply and demand projections so that Palo Alto’s water planning incorporates realistic cutback assumptions. Better cutback assumptions will provide actionable guidance for both near-term and long-term decision-making.

Second, the OWP’s evaluation methodology also raises significant technical concerns about how different water supply options are compared and ranked. The plan uses a weighting scheme that normalizes various criteria (like unit cost, reliability, and environmental benefits) to a 1-5 scale and then applies weighted scoring to compare portfolios. This approach, however, violates the Independence of Irrelevant Alternatives principle—meaning that the relative ranking between two options can change based solely on the characteristics of an unrelated third option, even when nothing about the two options being compared has changed. For example, changes in the cost of one portfolio could artificially alter the scoring and perceived relative merits of other portfolios, even though their underlying costs and benefits remain exactly the same. Instead of using this potentially misleading scoring system, we recommend that future evaluations present the actual underlying metrics (such as dollar cost per acre-foot) directly to decision-makers, allowing for transparent analysis of tradeoffs between different options.

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Overall, while the OWP found that some alternatives were infeasible, helping save the city analysis time in the future, adopting the OWP appears premature given current regional developments. SFPUC is just beginning its own alternative water supply planning process, with a focus on purified water projects. SFPUC’s

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at 2-8 (“Based upon the City’s forecasted water demand presented in the City’s 2020 UWMP and projections of water supply availability provided by SFPUC at the time, the City anticipates the need to implement water use reductions of approximately 50 percent from pre-drought usage levels in dry years post Bay-Delta Plan implementation.”).

recently approved 10-year capital improvement plan includes \$260 million for alternative water supply programs within its \$3.16 billion total budget, and much of this planning remains in early stages. Furthermore, public comment indicates that even under a worst-case scenario combining the Bay-Delta Plan flows with the worst recorded drought, SFPUC could manage without requiring rationing or new water supplies, which requires further study. More fundamentally, as highlighted in recent Commission discussions, while no investments are being recommended at this time, Palo Alto should avoid rushing into major alternative water supply planning and investments without first having robust data, transparent and robust modeling, and clear understanding of assumptions. This is particularly important given historical patterns of overestimating water demand and the need to carefully evaluate the policy, affordability, and regional growth implications of various supply options. The city should instead focus on supporting and engaging with regional efforts through SFPUC and BAWSCA to comprehensively assess future water supply needs and approaches.

Thus, the UAC believes addressing the strategic issues outlined below would significantly strengthen the city's water planning approach. We recommend working closely with BAWSCA and SFPUC to develop and validate more accurate cutback assumptions based on updated demand projections, refined drought scenario planning, and adaptive infrastructure approaches that reflect actual system performance and current climate science.

## STRATEGIC CONSIDERATIONS

Several strategic considerations emerge from this review.

First, Palo Alto's water security planning should reflect its position within the broader regional water system, recognizing our role as a small consumer in a complex network. A comprehensive approach would examine regional supply and demand patterns while incorporating trigger-based adaptive planning strategies—particularly important given increasing uncertainty in water supply conditions. The OWP, while it should not be adopted, at least provided a start at assessing local and regional alternatives. While local resilience measures like groundwater wells serve an important role, larger-scale solutions such as water reuse and brackish water desalination may be most effectively pursued through regional collaboration due to economies of scale in treatment cost and the pre-existence of a regional water conveyance network. Local initiatives such as on-site non-potable reuse for commercial, multifamily, and even single-family residential properties could complement these regional efforts. The city could consider developing staged policies and incentives to advance these objectives.

Second, the financial aspects of water management deserve careful attention. Recent rate increases reflect both SFPUC wholesale costs and investment in Palo Alto's distribution infrastructure. The latter represents essential maintenance to ensure system reliability and safety. As conservation efforts progress, the proportion of fixed costs in water bills may increase—a trend that warrants thoughtful policy consideration. Higher water bills have incentivized more conservation which will likely drive demand lower. This creates a challenging communication issue, as customers find it counterintuitive that rates continue to rise faster than inflation despite increased conservation efforts.

Third, the OWP’s assessed water sources face various implementation challenges that affect their viability. Some options, such as a quarter-billion-dollar desalination plant on the bay, are simply not realistic and need not be pursued further. The regional trend toward indirect and direct potable reuse (IPR/DPR) represents one pathway forward, though successful implementation typically requires sustained public engagement and education spanning decades. Palo Alto could play a constructive role in encouraging BAWSCA and SFPUC to begin foundational public outreach efforts now if these sources are anticipated to enter our water supply in the next twenty years.

Finally, continued engagement with regional partners, particularly BAWSCA, remains important. Early coordination with BAWSCA’s new leadership could help advance shared objectives, including refined demand projections, stronger probabilistic assessment of appropriate design droughts under different climate scenarios, and development of adaptive infrastructure planning. The Council has a BAWSCA Director who can ensure Palo Alto’s interests remain central to regional planning discussions, thereby reinforcing the need for rigorous, data-driven approaches that align with the City’s strategic priorities. Furthermore, the UAC recommends that Council meet with the new BAWSCA CEO Thomas “Tom” Smegal as soon as possible to emphasize these priorities.

## CONCLUSION

The UAC encourages the City Council to consider these observations as it works with local and regional partners to strengthen water security planning. The UAC stands ready to provide additional detail, clarification, or support regarding any aspects of these recommendations. We would also like to thank Staff for their thoughtful and supportive engagement on these issues.

Respectfully submitted,

Utilities Advisory Commission, City of Palo Alto

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