

Water Supply Alternatives Plan

City Council / Board of Public Utilities

Liaison Committee

April 28, 2022



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Outline of presentation

1. Water Supply Alternatives Plan overview
2. Water supply and demand through 2045
3. Resiliency and reliability goals
4. Potential sources of water supply
5. Strategy and scope
6. Draft timeline
7. Recommendation



Water Supply Alternatives Plan will help the City:

Purposefully, systematically, and cost-effectively:

- Adapt to climate change.
- Increase resiliency and reliability of water system.
- Mitigate increasing vulnerability to severe shortages.
- Establish local water supply production goals.
- Analyze the feasibility of a range of supply sources.
- Leverage the resiliency work of Sonoma Water and the Contractors.
- Determine least-cost mix of projects to achieve goals.
- Document the path forward and implement.

Water Supply Alternatives Plan

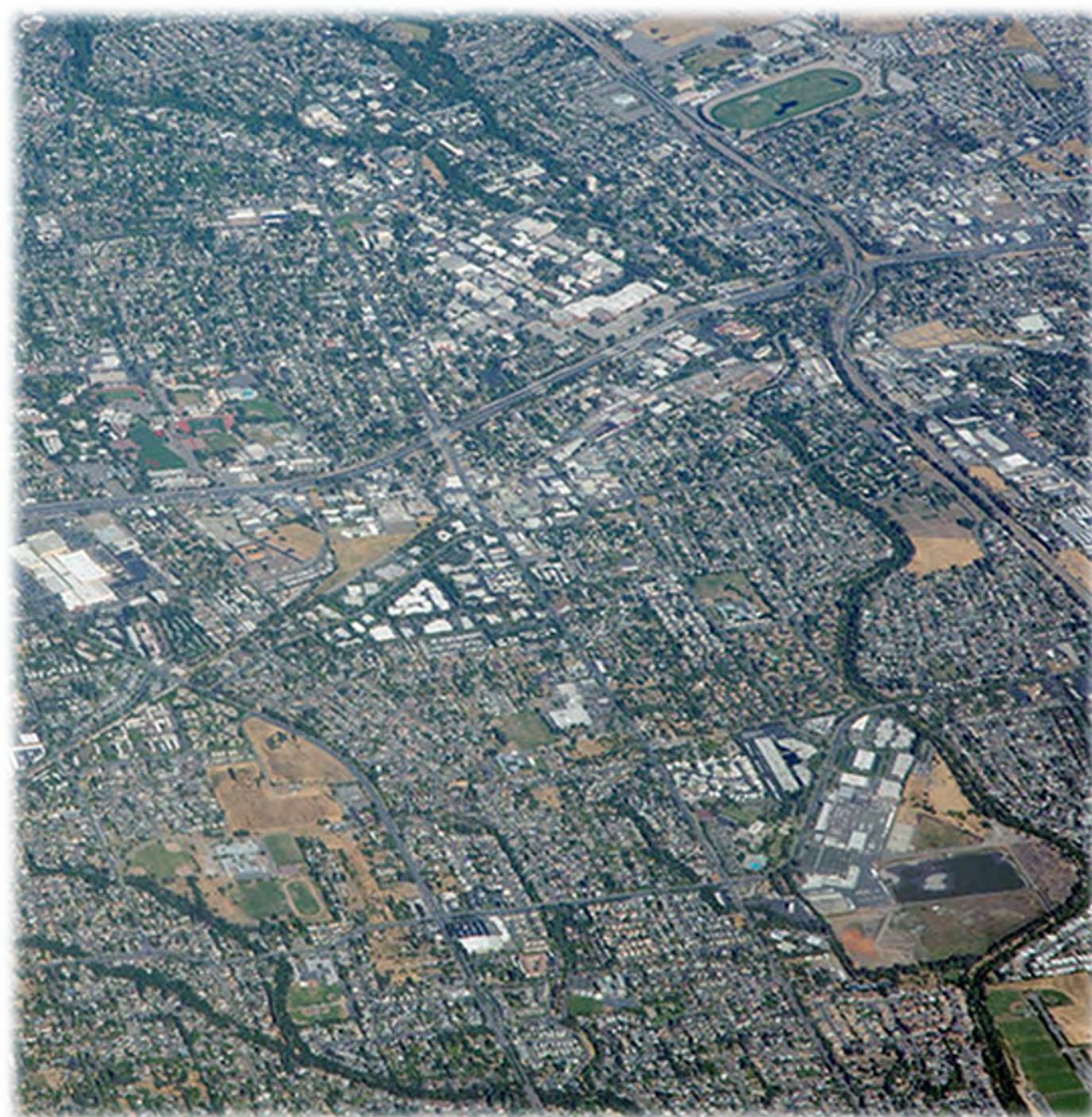
Purpose

Enhance the City's long-term water supply resiliency and reliability, to adapt to climate change and reduce vulnerability to shortages in very dry periods.

Proposed Approach

Conduct a study and develop a plan to:

- Engage stakeholder group for input.
- Establish long-term local water supply goals.
- Determine feasibility of potential supply sources.
- Develop portfolios of options to achieve the goals.
- Prepare and adopt the Plan.
- Implement the Plan to achieve the goals by 2045.



Existing Water Plans

- Urban Water Management Plan
- Water Shortage Contingency Plan
- Groundwater Master Plan
- Incremental Recycled Water Program Master Plan
- Santa Rosa Plain Groundwater Sustainability Plan
- Sonoma Water Resiliency Study

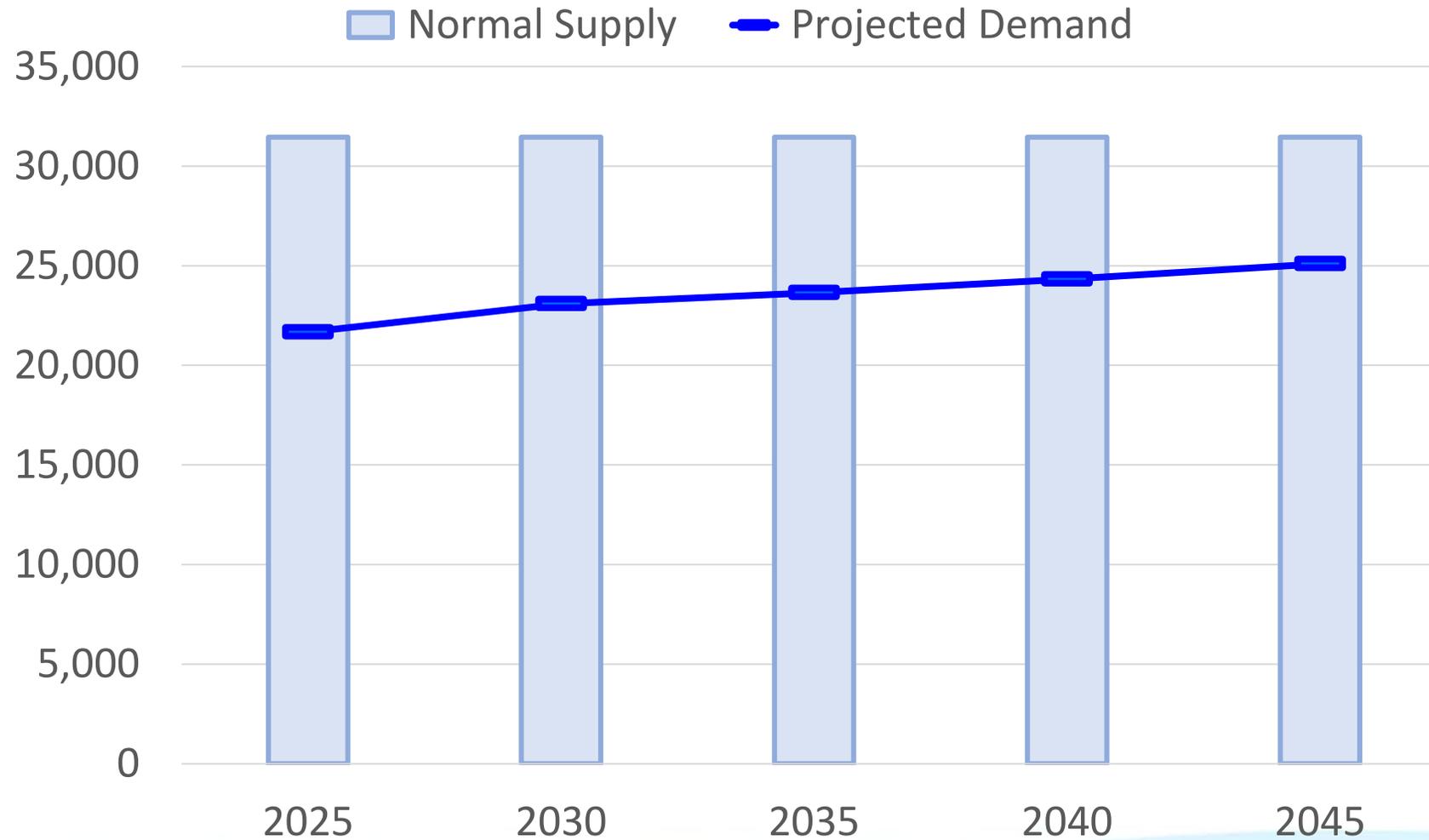


Current Supply

29,100 AFY	Sonoma Water
2,300 AFY	City Wells (Farmers Ln)
140 AFY	Regional Recycled Water
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31,540 AFY	Total

AFY = acre-feet per year

Normal Water Supply (average rainfall years) Compared to Projected Demand through 2045



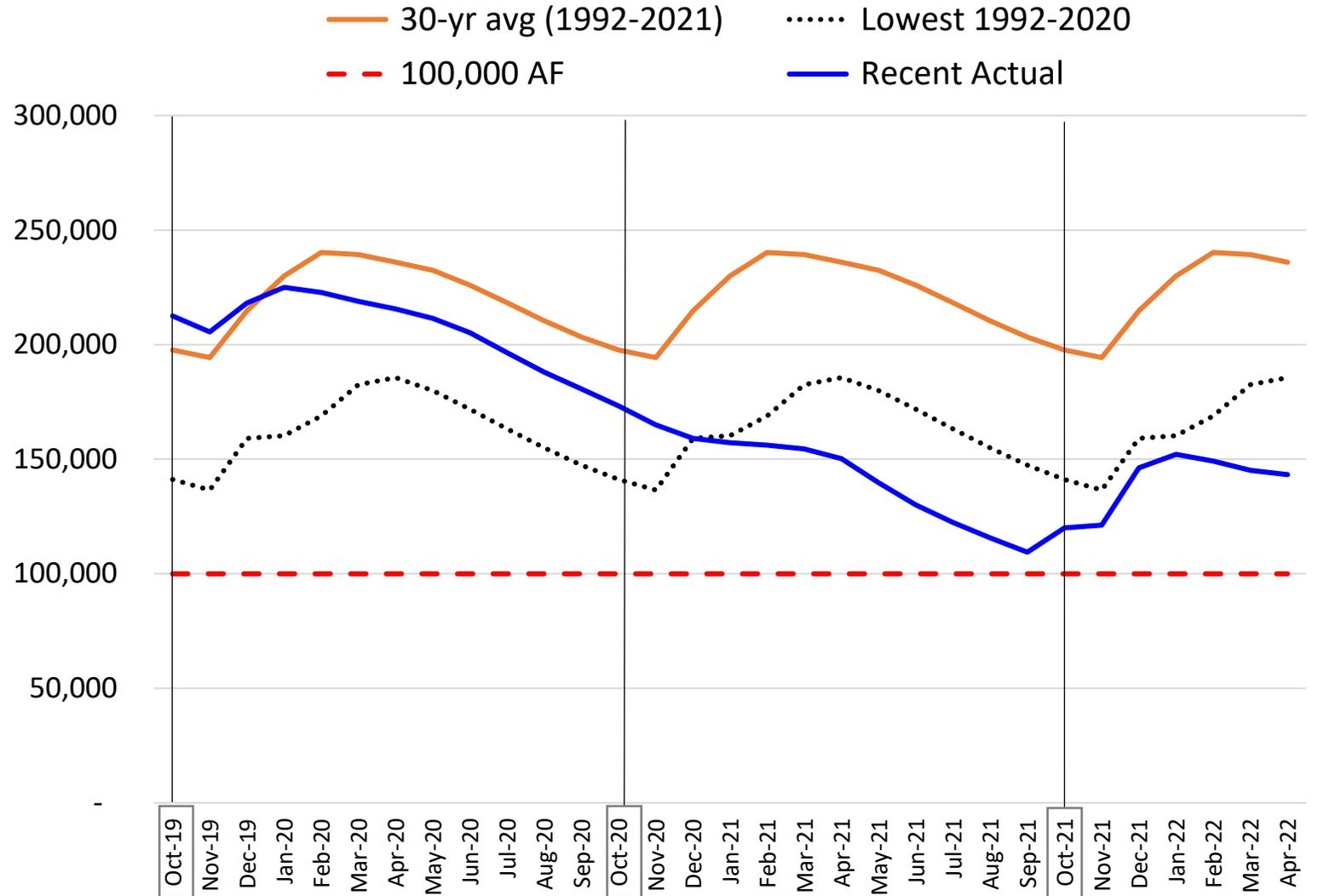
Risk of Severe Shortage

Storage in Lake Sonoma remains historically low.

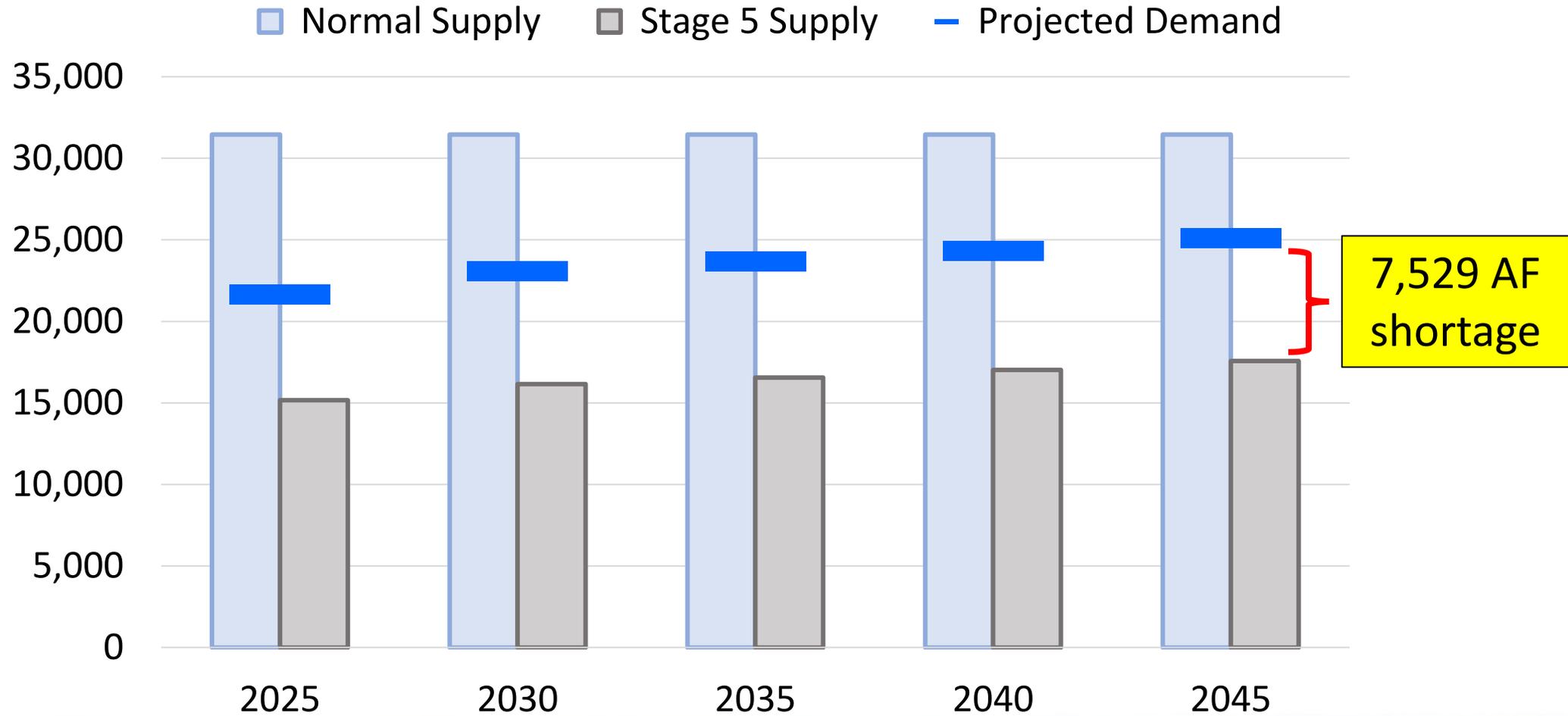
If storage drops below 100k AF, mandated reductions of 30% or more can be required.

Climate change is expected to cause more frequent and more severe droughts.

Lake Sonoma Storage – Acre Feet



30% shortage in Santa Rosa supply is Stage 5 Water Shortage Emergency.



Sonoma Water *Restructured Agreement for Water Supply* includes local production capacity goal

Section 1.15 Local Production Capacity Goal

In order to mitigate against drought, earthquakes, spills, temporary impairments, ... and other emergencies that can befall an urban water supply system, it is highly desirable that each Water Contractor achieve and maintain local water production capacity capable of satisfying approximately forty percent (40%) of the Water Contractor's average day of maximum month demand.



**Sonoma
Water**

Existing Local Supply Capacity

Potable wells for drinking water

Recycled water for urban landscapes

Current capacity (five-year averages)

- 1,382 acre-feet per year (AFY)
 - 7.8% of average annual demand
- 2.75 million gallons per day (MGD)
 - 12.5% of average peak day



Initial goals for increasing local supply

Analysis needed to establish feasible goals for annual (AFY) and peak day production (MGD).

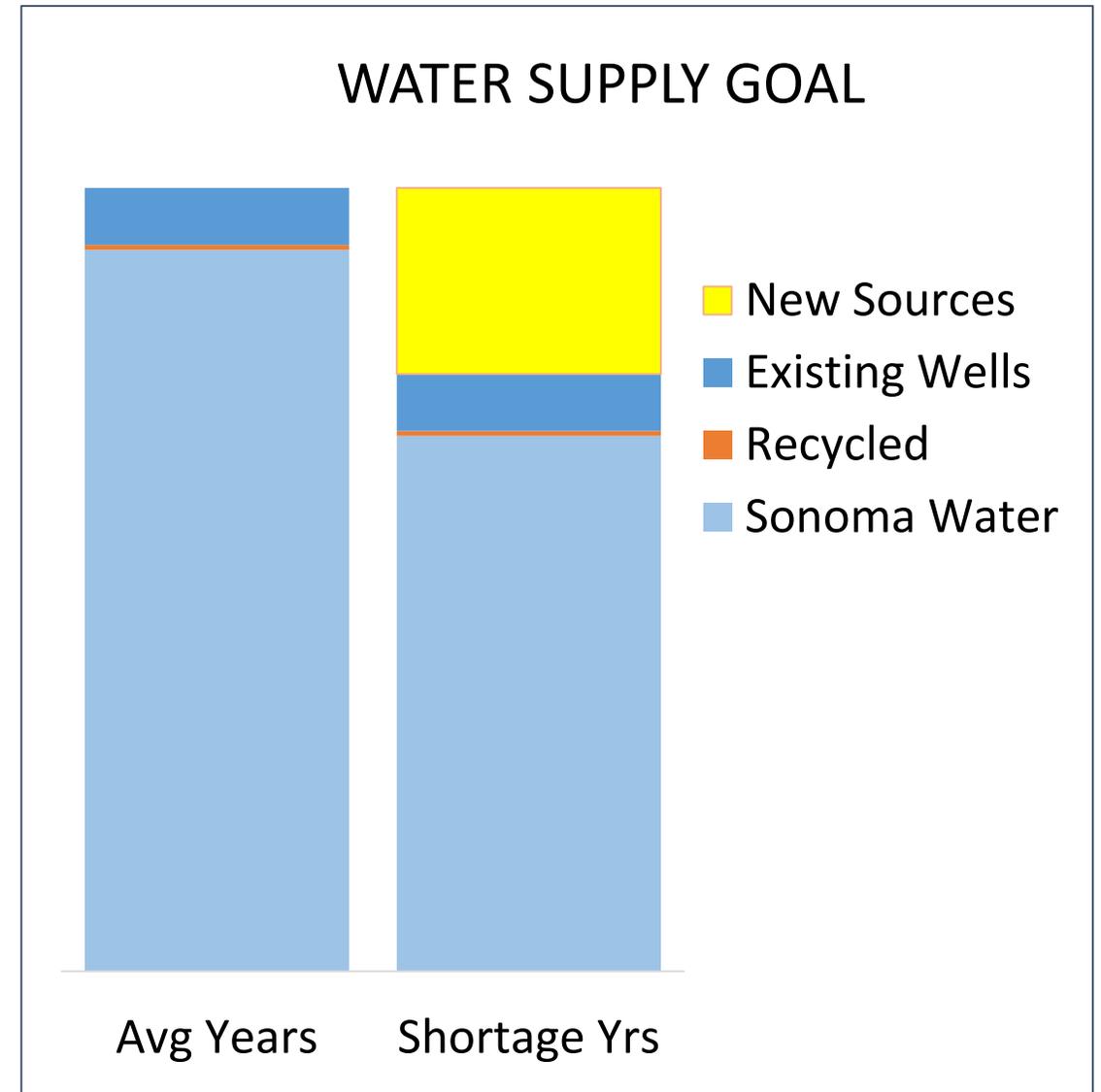
Key drivers:

- Reduce risk for Stage 5-8 shortages
- Respond to Restructured Agreement goal

Start with initial goals and revise (if needed) during study:

Achieve capacity to locally produce:

- 30% (7,500 AFY) of 2045 annual demand
- 40% (13 MGD) of 2045 average peak day



Potential local water supply sources

Aquifer Storage
& Recovery

Collaborative
resiliency projects
(with Sonoma Water
& Contractors)

Groundwater

Interties

Reuse

Stormwater

Surface water

Water trading

Other?

Proposed strategy and scope for developing the Water Supply Alternatives Plan

Study

- Engage stakeholder group.
- Establish water supply goals.
- Study feasibility of potential water supply sources.

Develop

- Prepare portfolios of options for achieving goals by 2045.
- Draft plan.
- Seek input from stakeholder group and revise draft.

Adopt

- Hold study session for broad public input on draft Plan.
- Revise as needed.
- Adopt final plan.

Implement

- Fund and execute the plan over time to achieve feasible goals by 2045.

Proposed Timeline

May-Aug 2022

- Solicit proposals, select firm, & award contract.

Sep 2022- Mar 2023

- Engage stakeholders. Conduct study. Draft plan.

Apr-May 2023

- Hold public study session. Finalize plan & adopt.

2024-2045

- Fund & implement projects to achieve the City's goals.

Recommendation

1

Staff to solicit proposals, evaluate, and select firm.

BPU to award contract.

2

Firm to assist in conducting study with stakeholder input and preparing plan to achieve goals by 2045.

3

BPU to hold public study session to provide input on draft plan.

BPU to adopt final plan.

4

Staff to execute plan to achieve goals by 2045.

Staff to report to BPU periodically on progress.

QUESTIONS & COMMENTS



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