



BAWSCA Service Area

Every drop counts. Use Water Wisely.

“A multicounty agency authorized to plan for and acquire supplemental water supplies, encourage water conservation and use of recycled water on a regional basis.”

[BAWSCA Act, AB2058 (Papan-2002)]

BAWSCA Water Demand Study

C/CAG RMCP

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Agenda

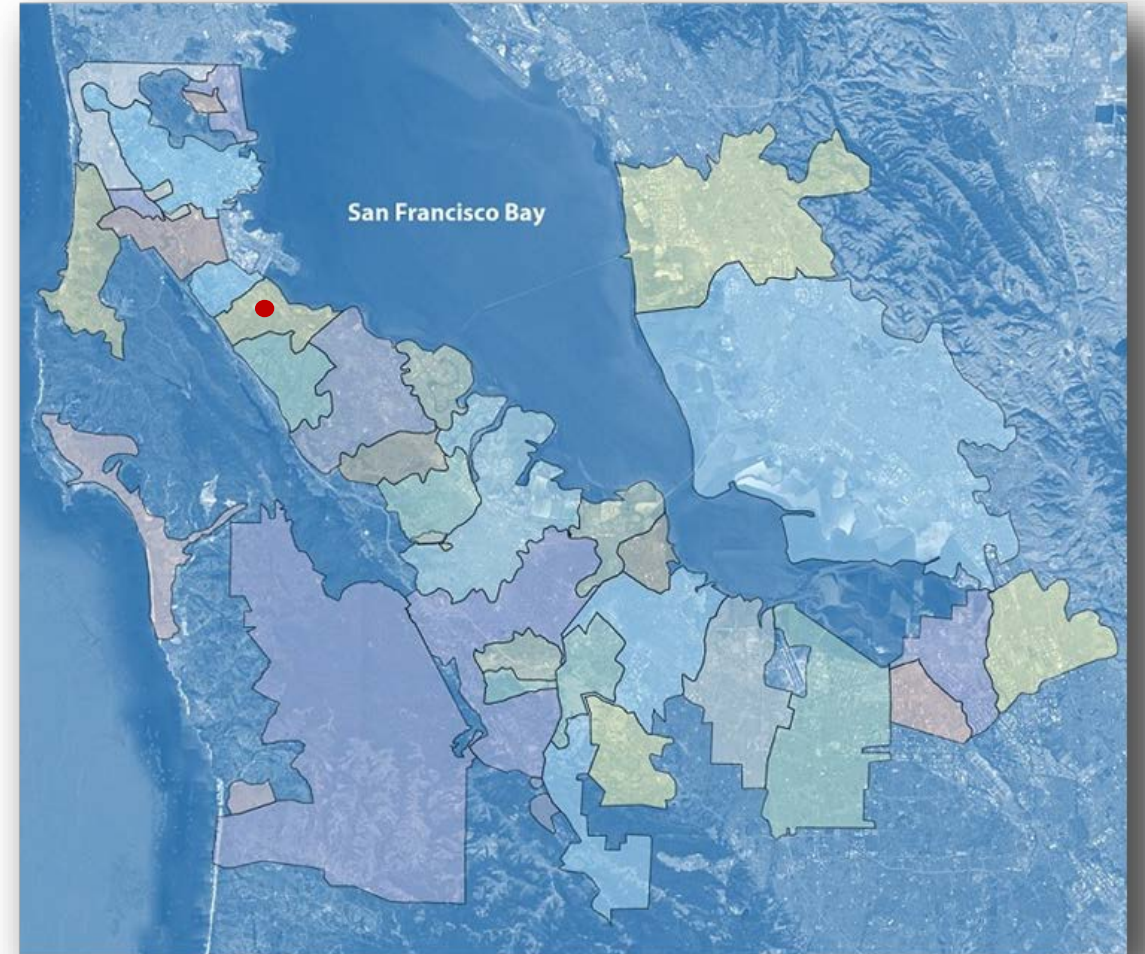
- Background on BAWSCA
- History of BAWSCA's Demand Studies
- 2022 Water Demand Update Methodology and Results
- 2025 Water Demand Study Methodology



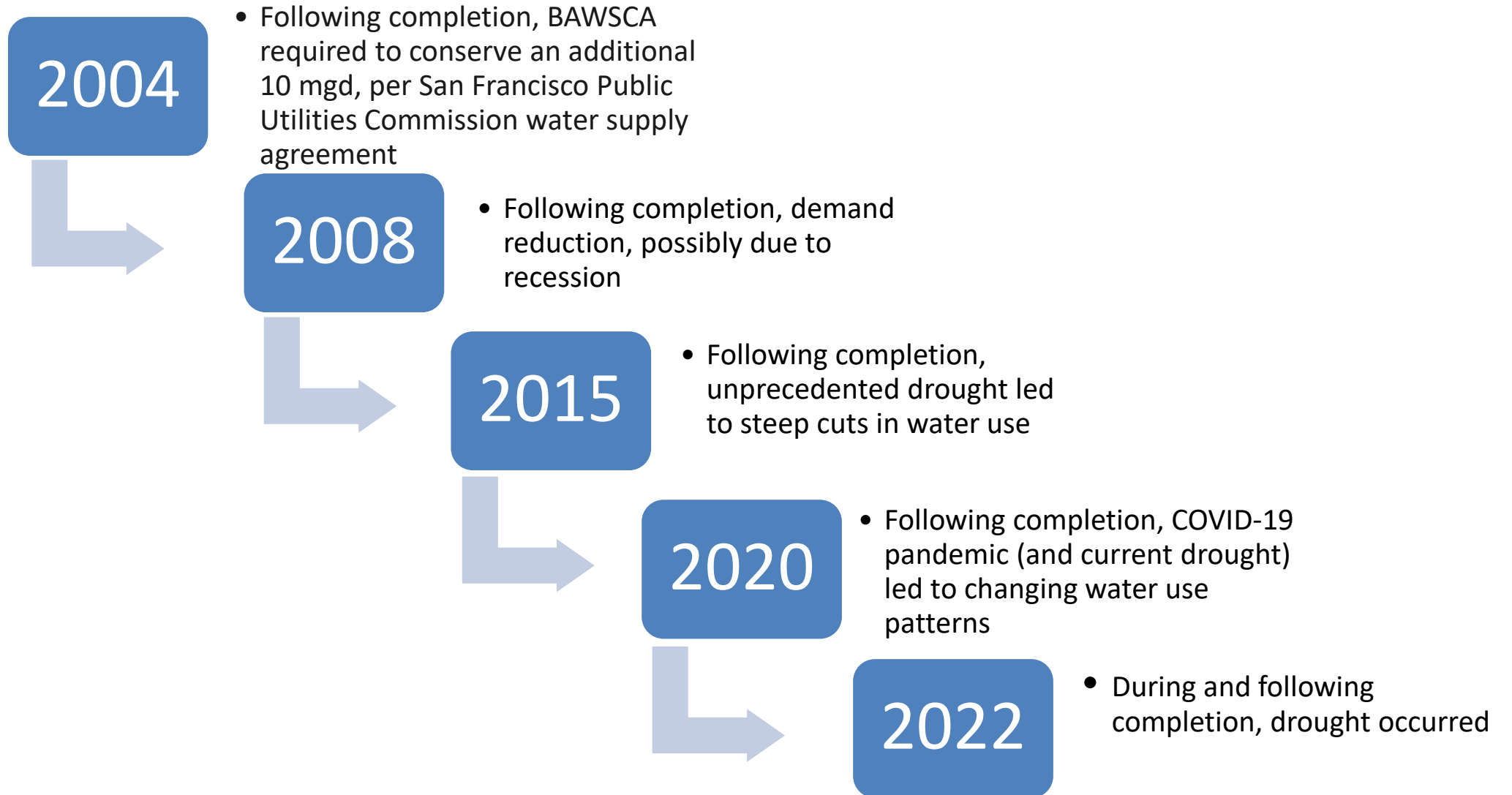
What is BAWSCA? (Bay Area Water Supply and Conservation Agency)

Special District formed in 2003 to represent the interests of:

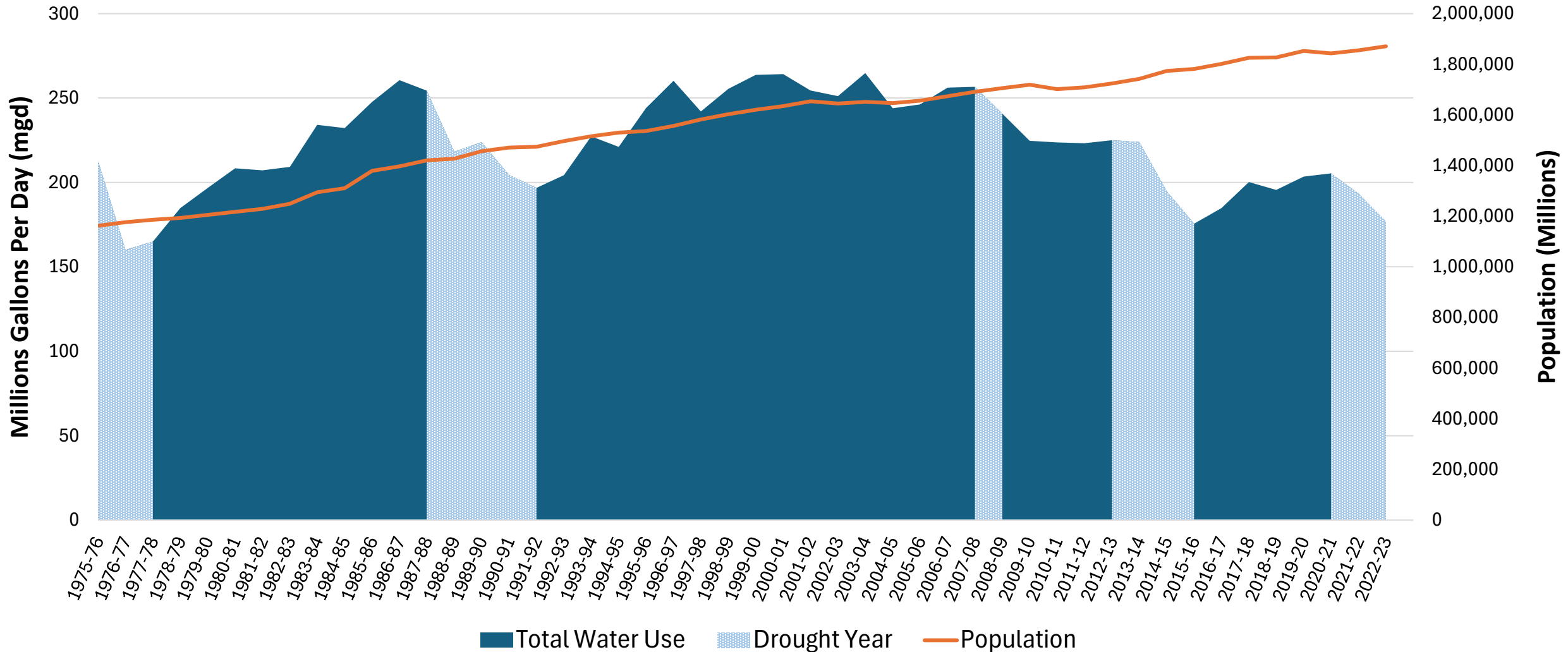
- 26 water suppliers in San Mateo, Santa Clara, and Alameda Counties
- 1.8 million residents and over 40,000 businesses, and countless community organizations
- All rely on the San Francisco (Hetch Hetchy) Regional Water System



Background on Previous Demand Studies



In FY 2022-23, 32% Less Water Used in BAWSCA Region Compared to FY 1986-87 Despite a 34% Population Increase



2022 Demand Study Update

Objective 1

Update water demand projections developed in the 2020 Demand Study to reflect new data that became available since its completion

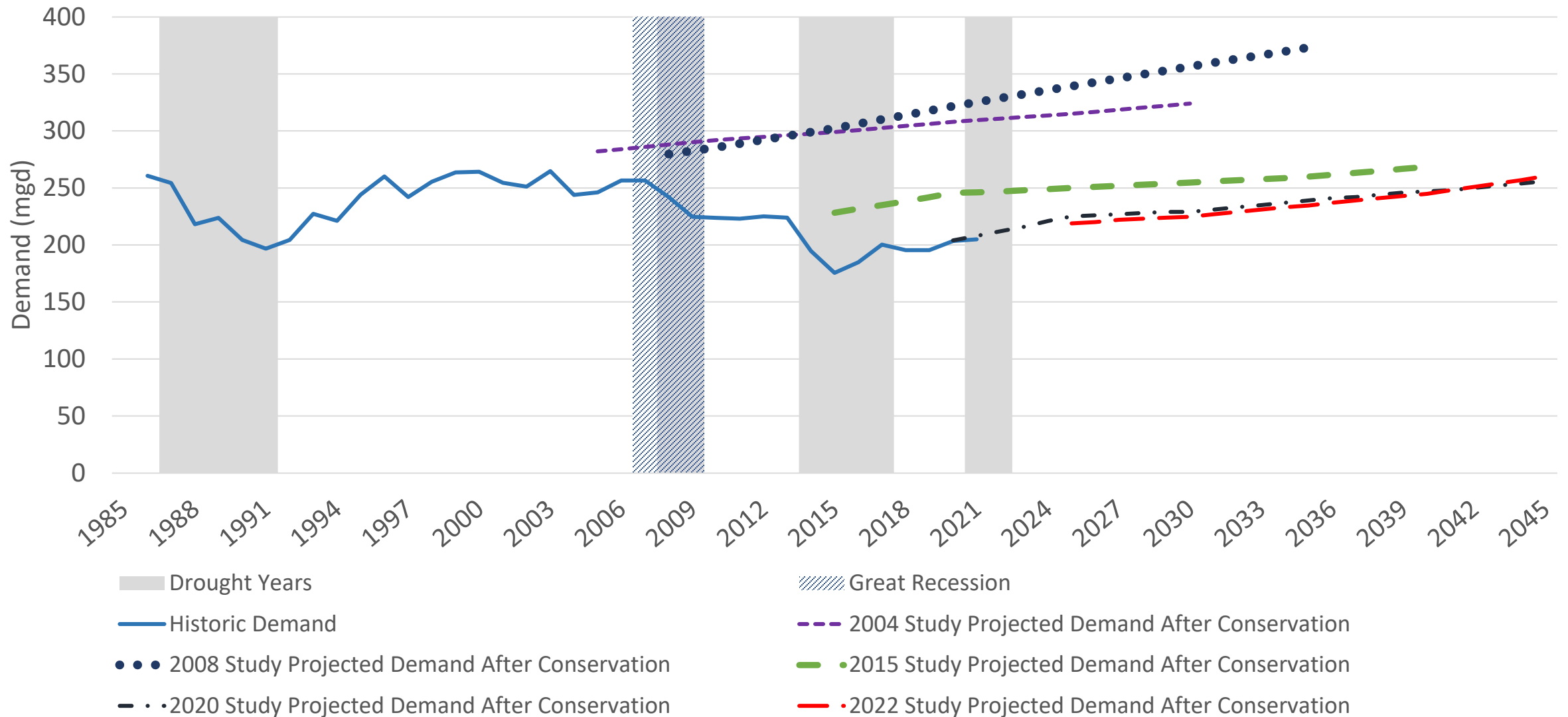


Objective 2

Perform sensitivity analyses to better understand and quantify the uncertainty associated with demand estimates and variables that influence water demands



BAWSCA Region-Wide Demand Projections Throughout the Last Two Decades




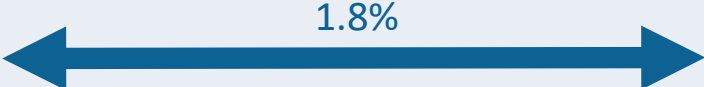



Demand Study Update – Sensitivity Analysis Overview

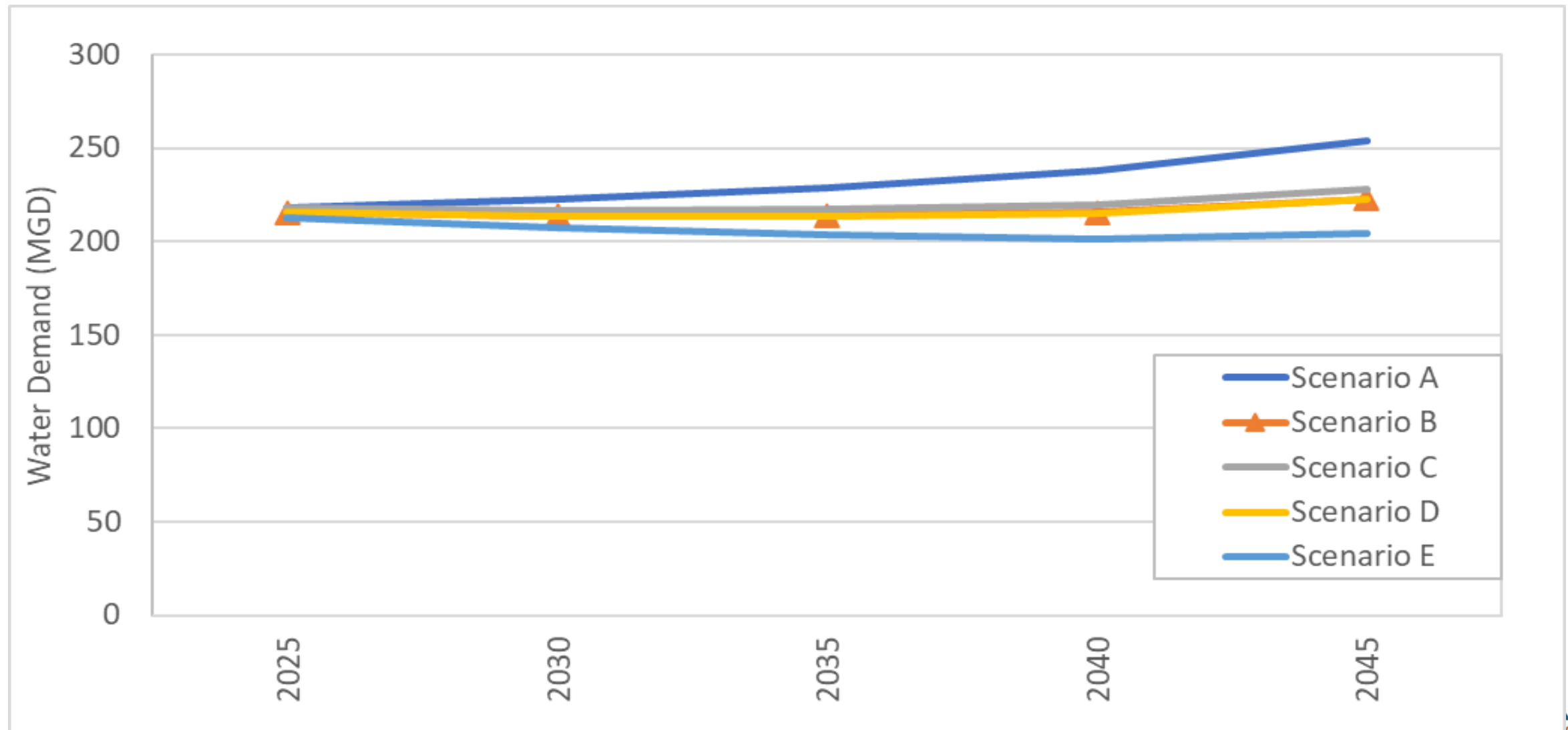
Sensitivity analysis is used to:

- Determine how to quantify the range in uncertainty of water demands
- Better understand the effects of key factors on water demand projections
- Serve as a reference in tracking actual vs projected water demands

Variables Used in the Sensitivity Analysis were Carefully Selected by BAWSCA Project Team and Stakeholder Feedback

Variable	Basis for Projection		
1. Population and Economic Growth	Annual growth rate for future population and jobs	Population: 0.52% (DOF) Jobs: 0.42% (DOF)	 0.84% (Historical) 1.1% (ABAG) 0.74% (Historical) 1.0% (ABAG)
2. Housing Density	New housing built (at retail level through 2045)	Continued historical patterns (% SF, % MF)	 Increased density in future (10% more MF, 10% less SF) Increased density in future (15% more MF, 15% less SF)
3. Long-term Climate Change	°F warming	1.6 °F RCP 4.5: global CO2 emissions peak by 2045	 2.2 °F RCP 8.5: global CO2 emissions continue to rise through 21st century
4. Water Rates	Future increase to individual BAWSCA agency water rates above CPI	0% (consistent with CPI)	 1.8% 2.3%
5. Conservation	% annual demand reduction	0.5% (programs selected in BAWSCA's 2020 Demand Study)	 0.625% (assuming agencies achieve an additional 25% savings beyond selected water conservation programs)
6. Seasonal Weather	Applied to all scenarios to set baseline demand		
7. Economic Cycles	(normalizes demand for seasonal weather fluctuations and short-term economic cycles)		

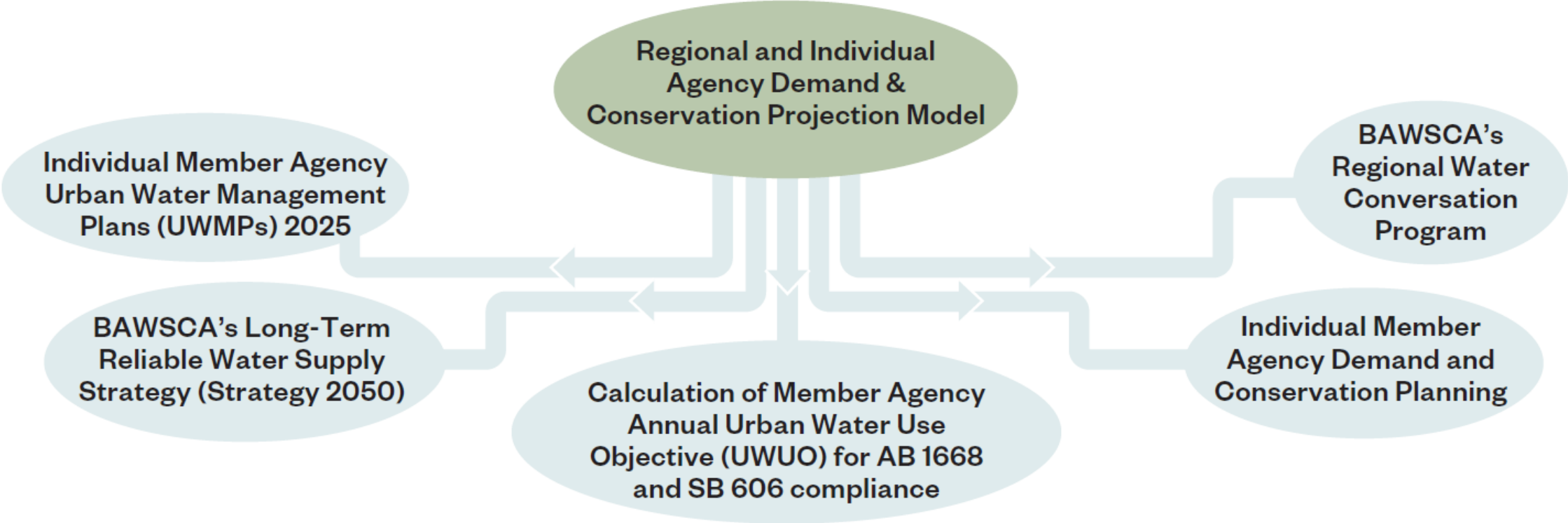
Future Region-Wide Water Demands Under All Scenarios



Key Takeaways from the Sensitivity Analysis

- Seven identified variables have the potential to impact water demand
- Population was shown to have the largest impact on water demand
- The resulting demand from the range of scenarios varied by up to 50 MGD in 2045
- Will serve as a reference in tracking actual vs projected water demands
- Will help to inform future planning decisions

The 2025 BAWSCA Demand Study Began on July 1, 2024



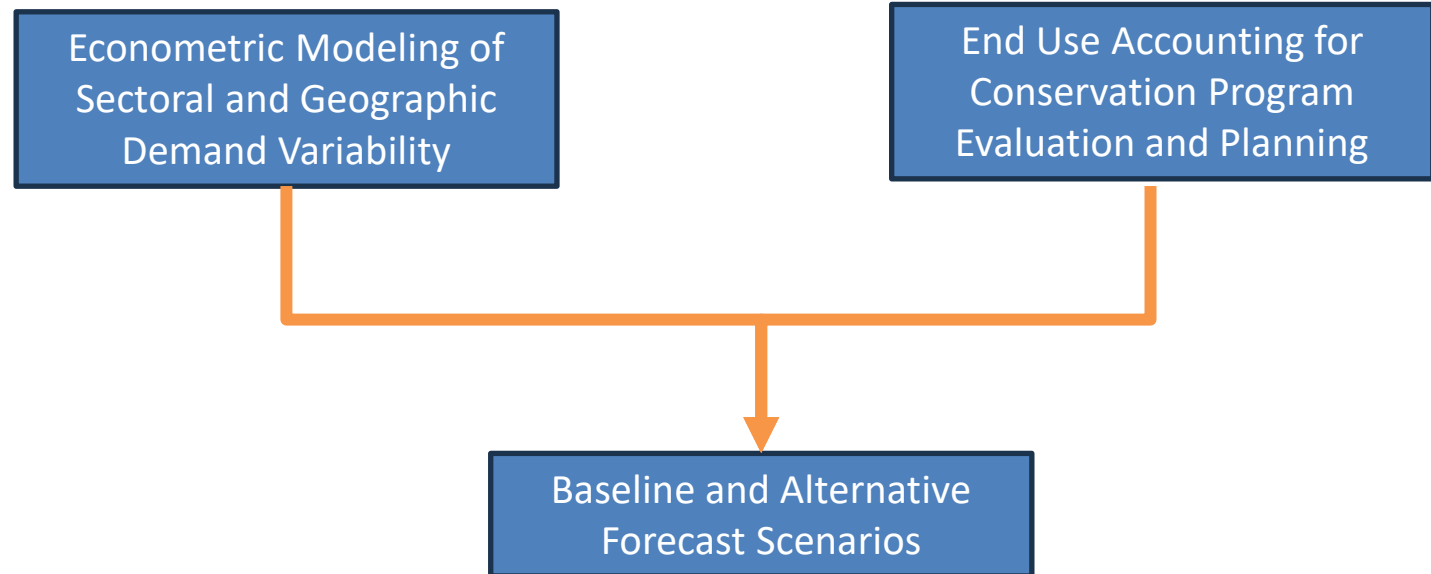
Methodological Review

“Hybrid” approach consisting of end use modeling and econometrics

Provides ability to track the effect of technology and implementation (end use approach)

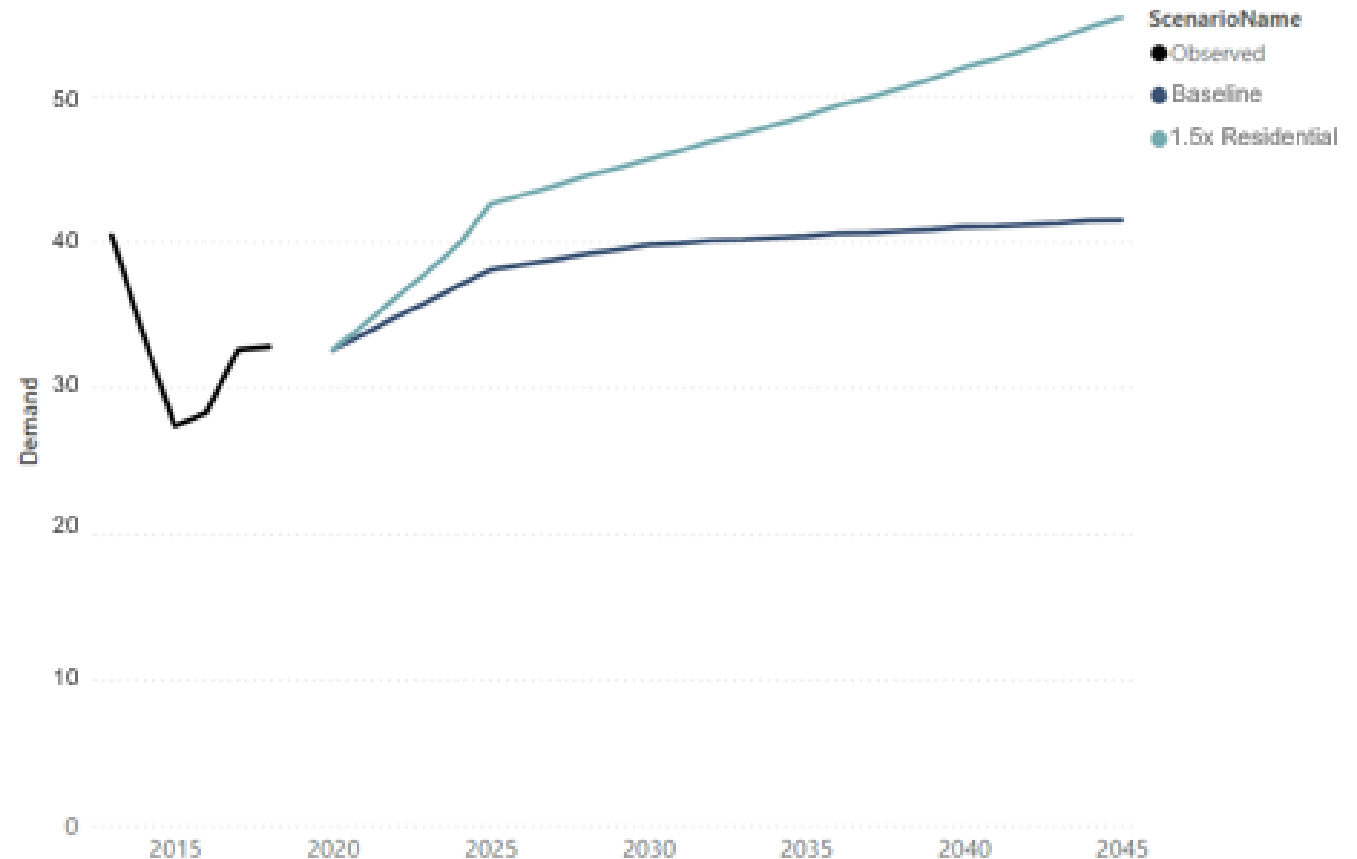
Provides ability to quantitatively evaluate variability (econometrics) including explanatory variable related to:

- Seasonal variability
- Weather
- Price
- General economic conditions
- COVID-19 response and recovery
- Socioeconomic and demographic factors
- Passive conservation
- Drought response and recovery



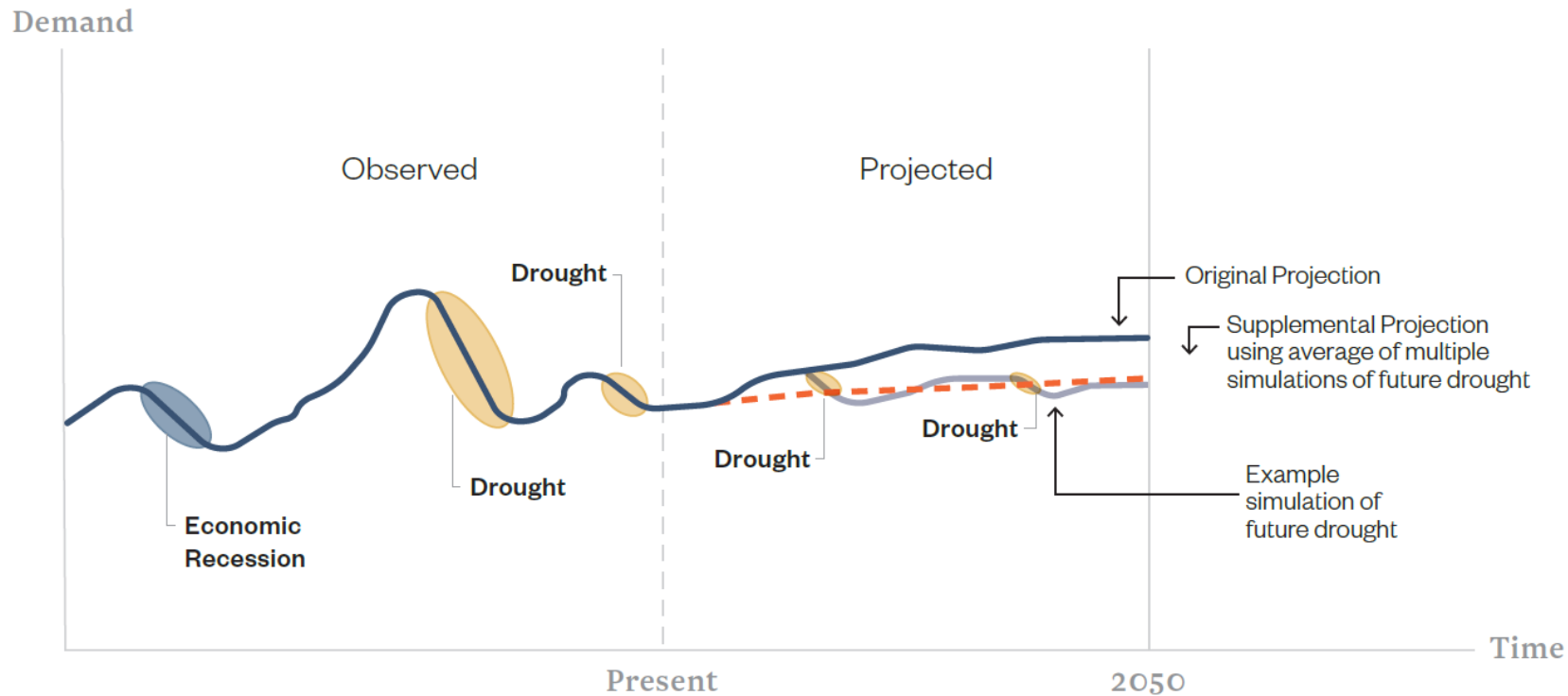
Sensitivity Analysis

- Goal is to understand the relative impact and importance of key factors that influence water demand
 - Climate/Weather, demographic, economic, land use/growth, efficiency and conservation
- Overall process using fitted water demand model:
 - Systematically and independently vary inputs
 - Analyze impact on projections
- Feeds into development of thematic scenarios
 - Combinations of inputs consistent with overall planning themes



Example sensitivity analysis varying projections of residential housing units

Simulating the Impact of Future Drought Events



Objective: Model drought rebound process over forecast horizon recognizing the chance of future droughts and resulting potential influences on future demand

Can develop “envelope” of future demands accounting for the potential impact of future drought events

Questions and Comments

BAWSCA's 2025 Demand Study is anticipated to be completed in the Fall of 2025 and will be made available to the public

Contact

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