



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)]


Board of Directors Meeting


November 17, 2022

Call to Order, Roll Call and Pledge of Allegiance




Comments by Chair



 **Replace your lawn with a water-wise landscape**

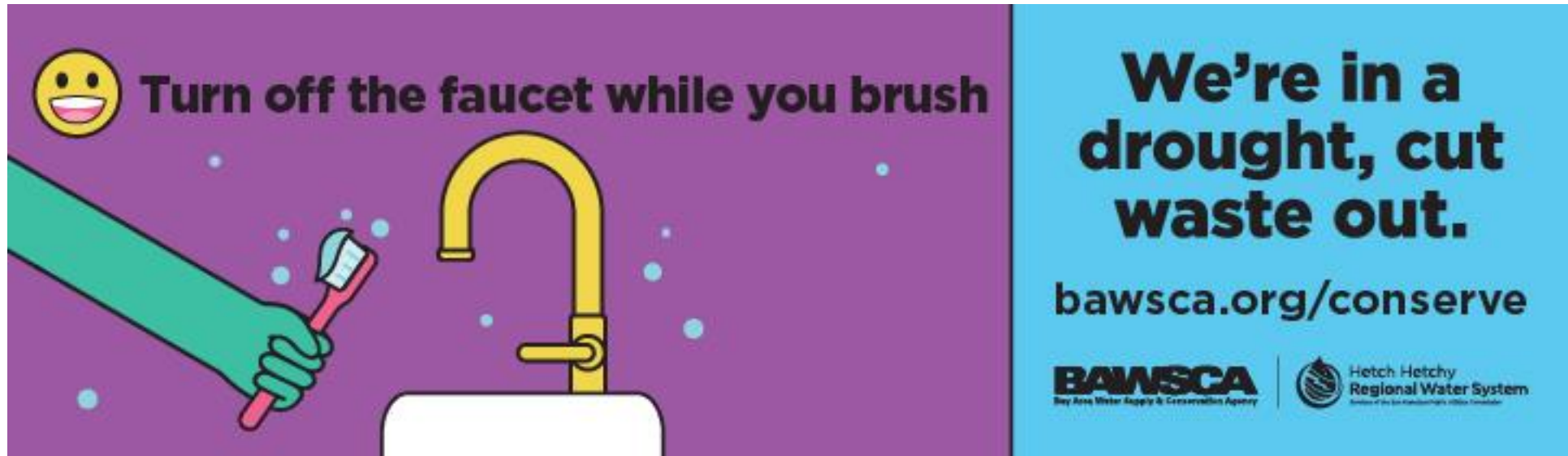
We're in a drought, cut waste out.

BAWSCA
Bay Area Water Supply & Conservation Agency

 Hetch Hetchy
Regional Water System
Service of the San Francisco Public Utilities Commission

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Board Policy Committee Report



Public Comments on Items Not on the Agenda



SFPUC Report



Drought Conditions Update

Alison A. Kastama

BAWSCA Liaison

November 17, 2022

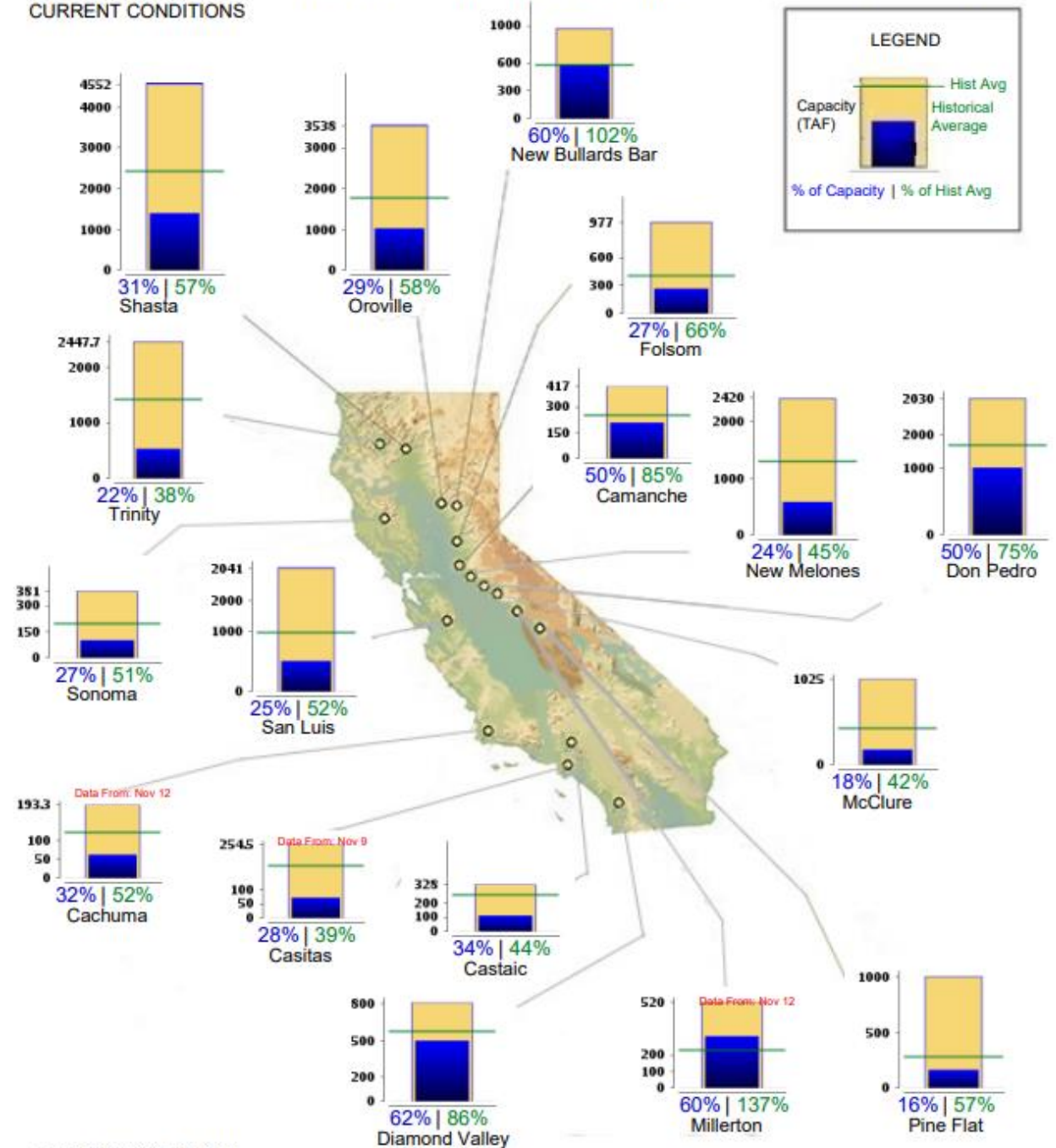
November 14, 2022 Reservoir Storage

Reservoir	Current Storage ^{1,2,3} (AF)	Maximum Storage ⁴ (AF)	Available Capacity (AF)	Percent of Maximum Storage	Normal Percent of Maximum Storage ⁵
<u>Tuolumne System</u>					
Hetch Hetchy	254,100	360,360	106,260	70.5%	71.6%
Cherry	245,500	273,345	27,845	89.8%	-
Eleanor	18,130	27,100	8,970	66.9%	-
Water Bank	252,001	570,000	317,999	44.2%	98.4%
Total Tuolumne Storage	769,731	1,230,805	461,074	62.5%	-
<u>Local System</u>					
Calaveras	57,008	96,670	39,662	59.0%	-
San Antonio	41,246	53,266	12,020	77.4%	-
Crystal Springs	52,908	58,309	5,401	90.7%	-
San Andreas	16,868	19,027	2,159	88.7%	-
Pilarcitos	2,174	3,030	856	71.7%	-
Total Local Storage	170,204	230,302	60,098	73.9%	-
Total System Storage	939,935	1,461,107	521,172	64.3%	79.1%
Total without water bank	687,934	891,107	203,173	77.2%	-

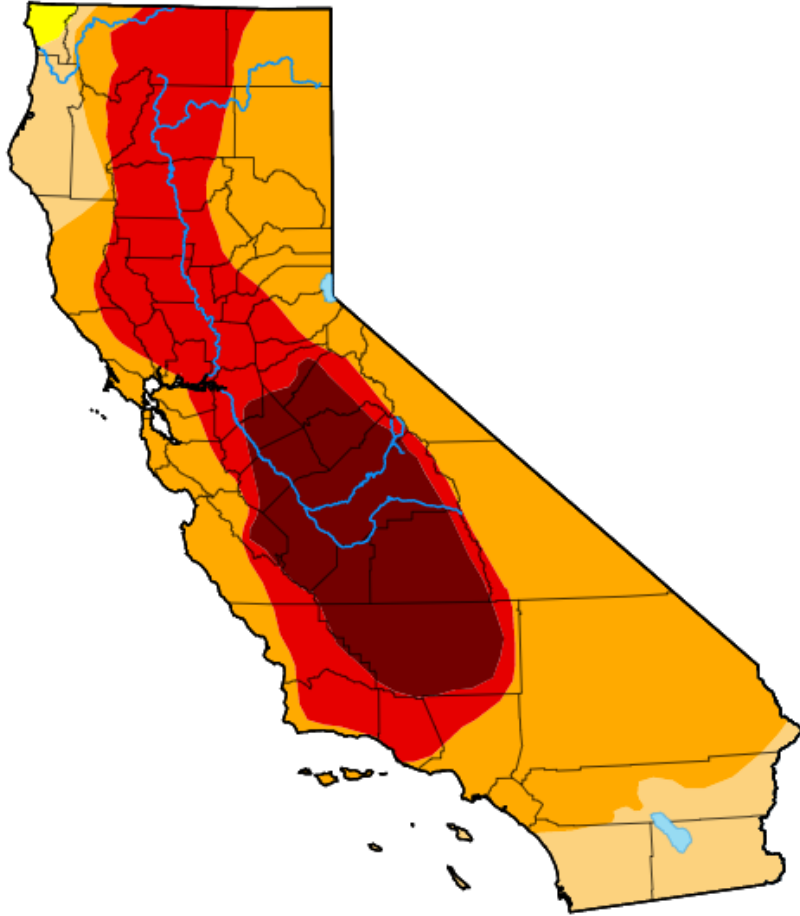
Other California Reservoirs

CALIFORNIA MAJOR WATER SUPPLY RESERVOIRS CURRENT CONDITIONS

Midnight - November 13, 2022



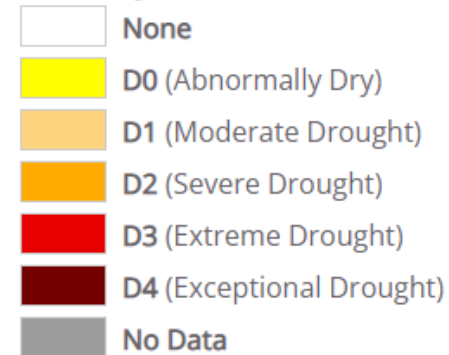
California Drought Monitor



Map released: Thurs. November 10,
2022

Data valid: November 8, 2022 at 7 a.m. EST

Intensity



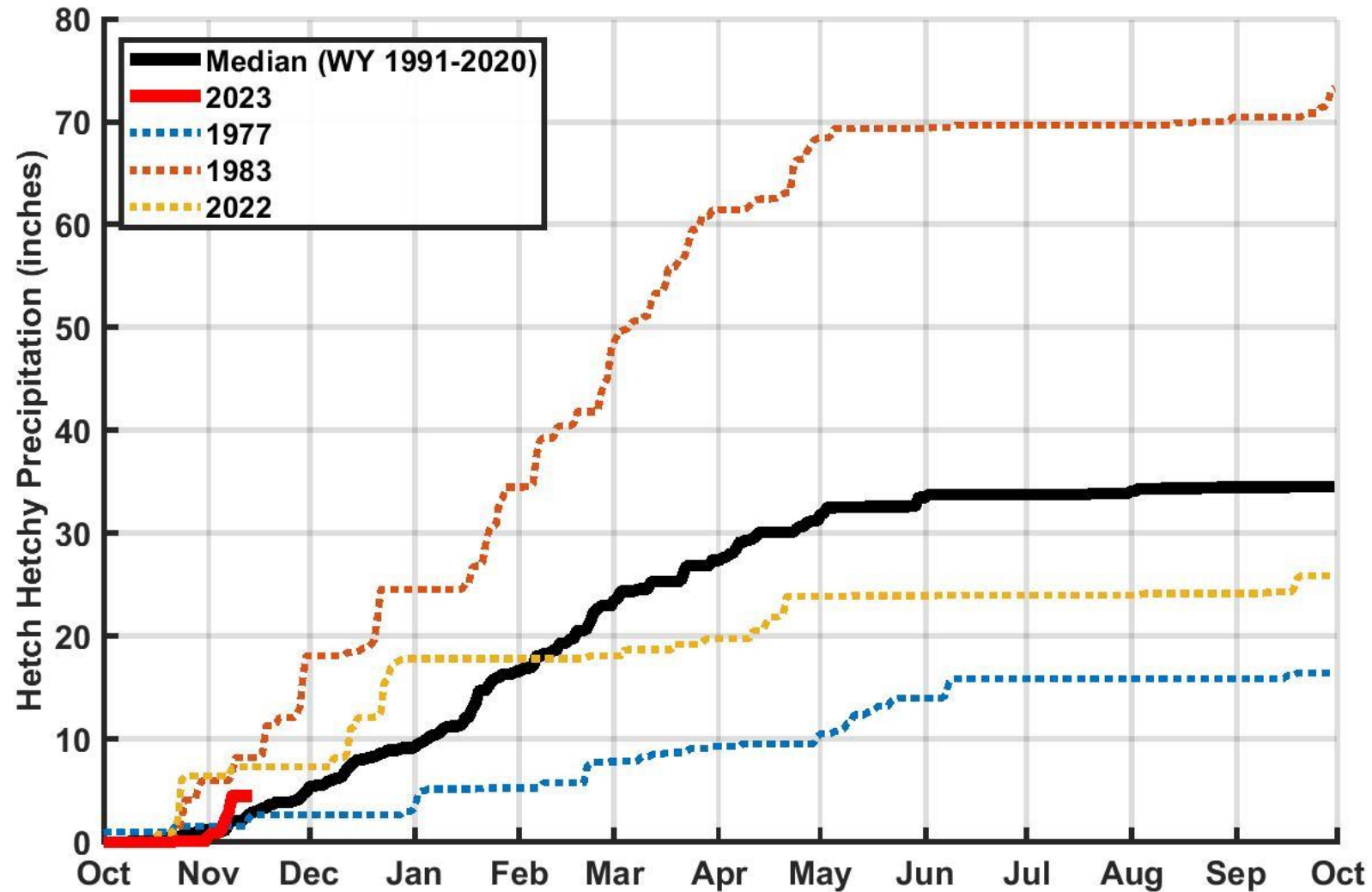
Authors

United States and Puerto Rico Author(s):
Brian Fuchs, National Drought Mitigation Center

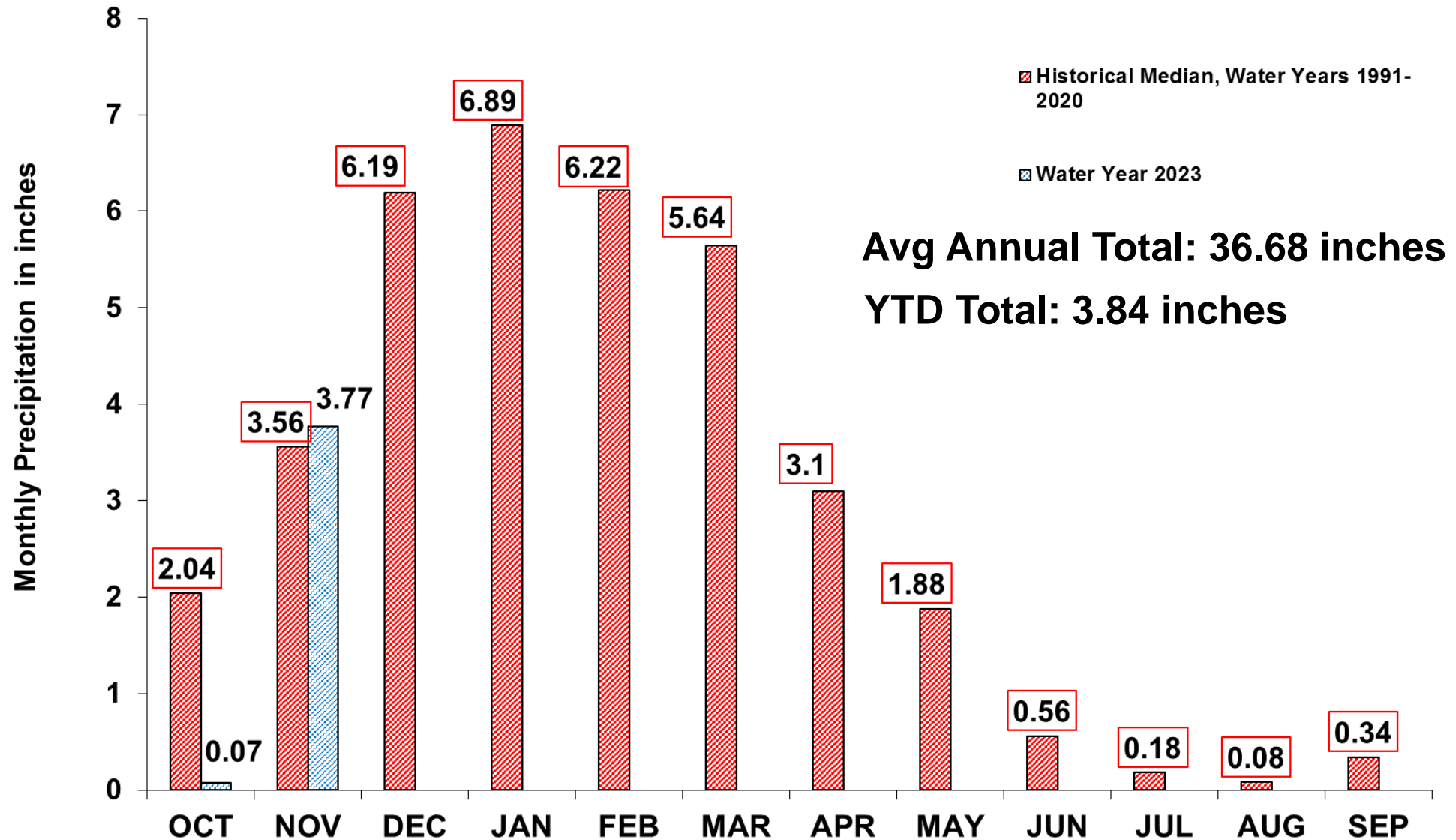
Pacific Islands and Virgin Islands Author(s):
Brad Rippey, U.S. Department of Agriculture

*The Drought Monitor focuses on broad-scale conditions.
Local conditions may vary. See accompanying **text
summary** for forecast statements.*

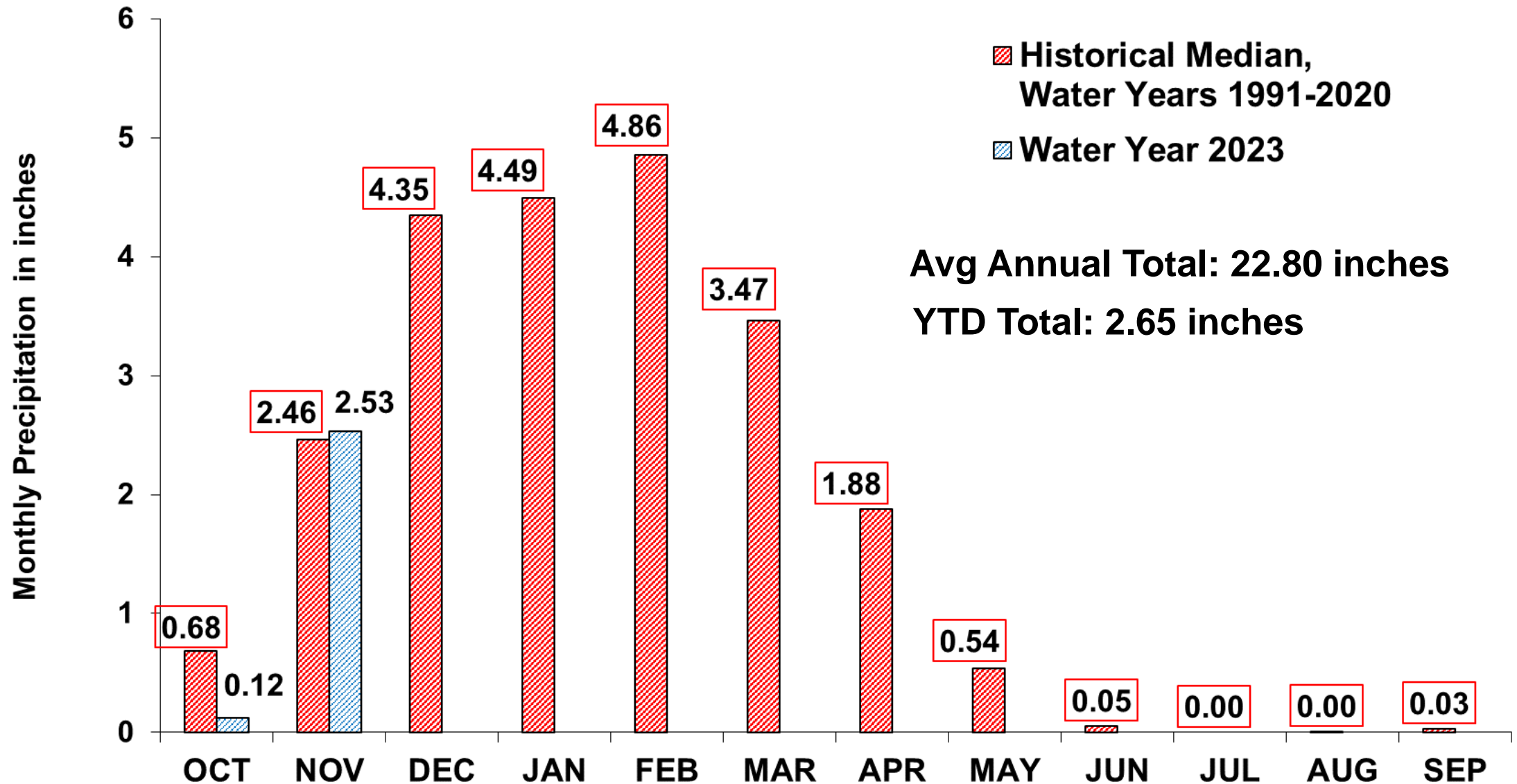
Hetch Hetchy Precipitation



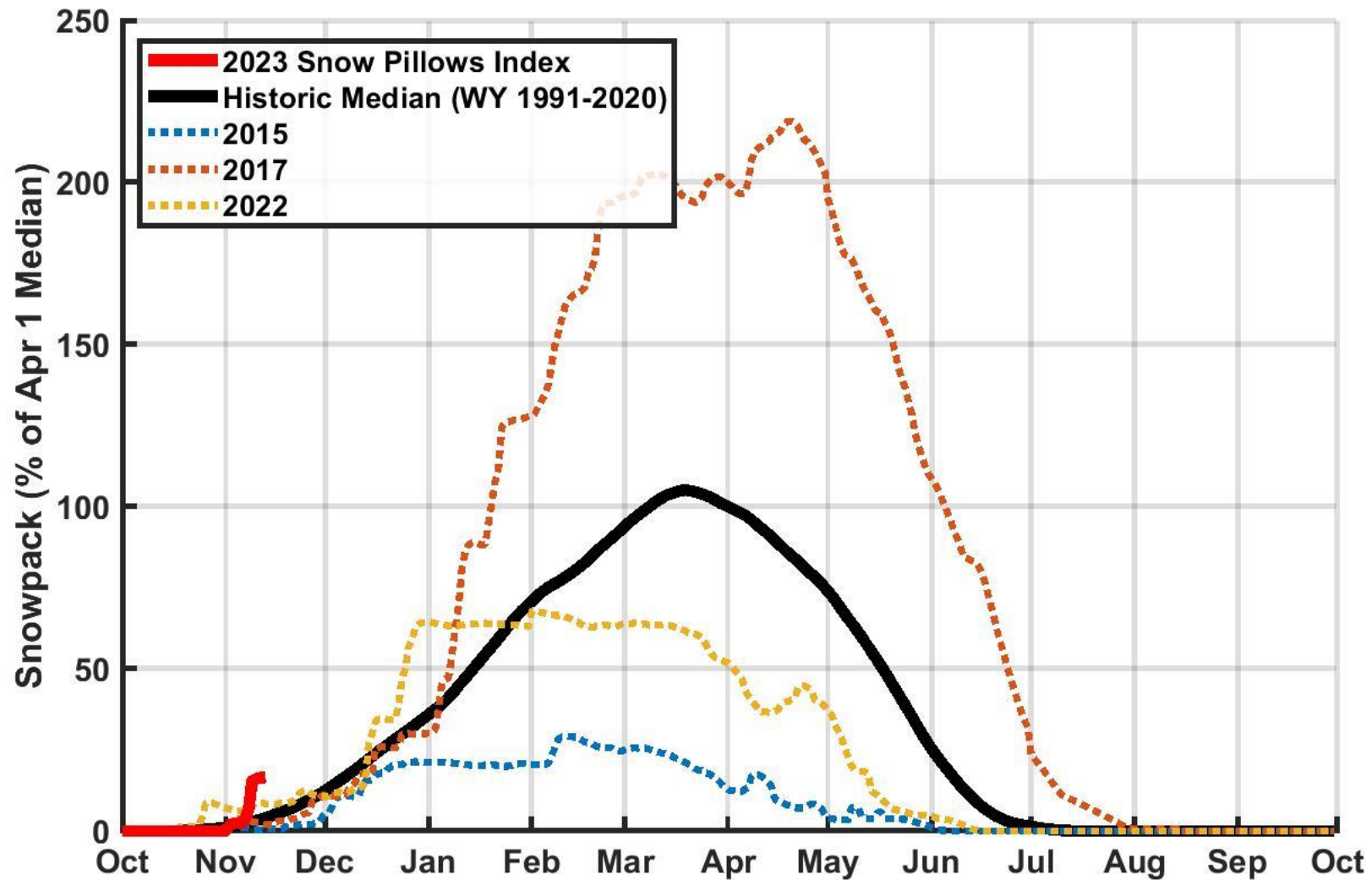
Upcountry 6-station Precipitation Index as of November 13, 2022



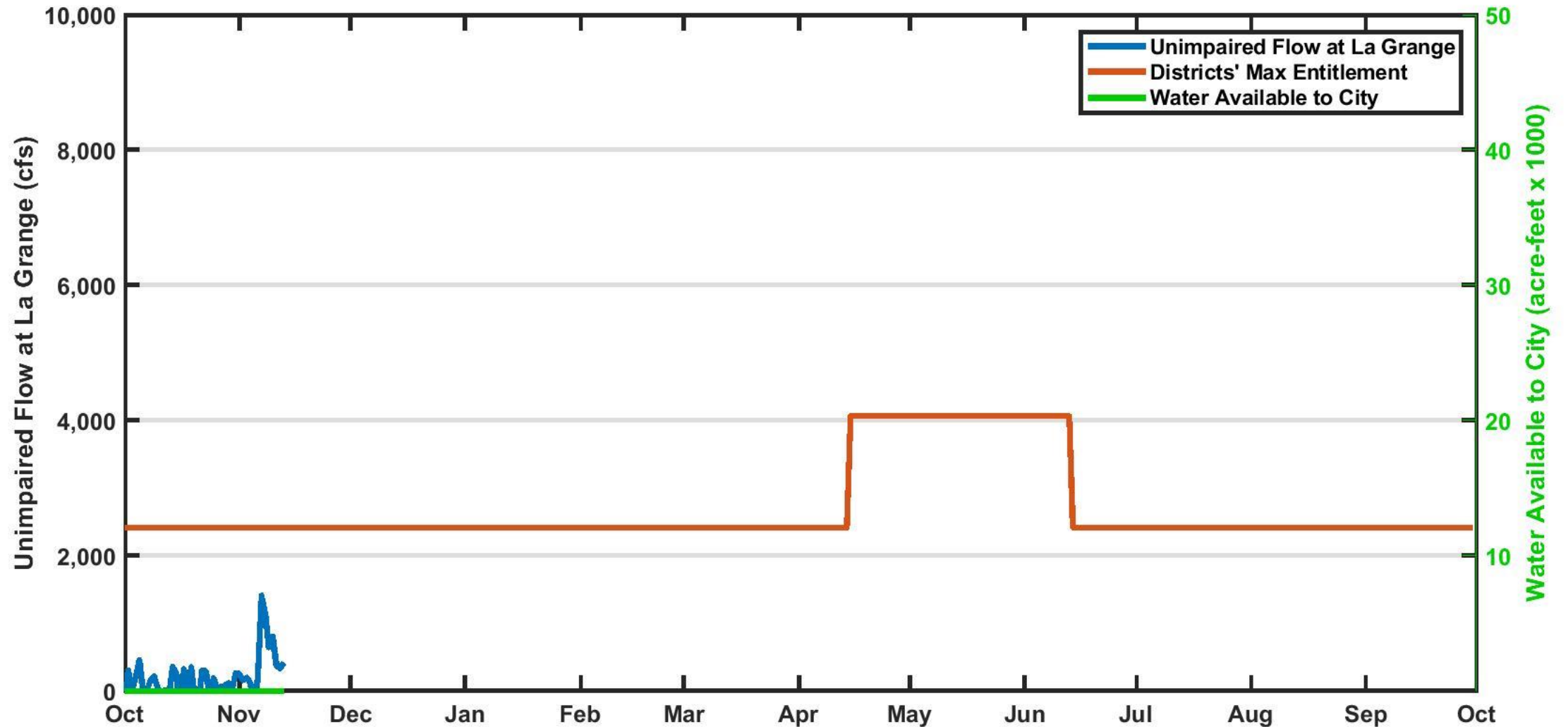
Bay Area 7-station Precipitation Index as of November 13, 2022



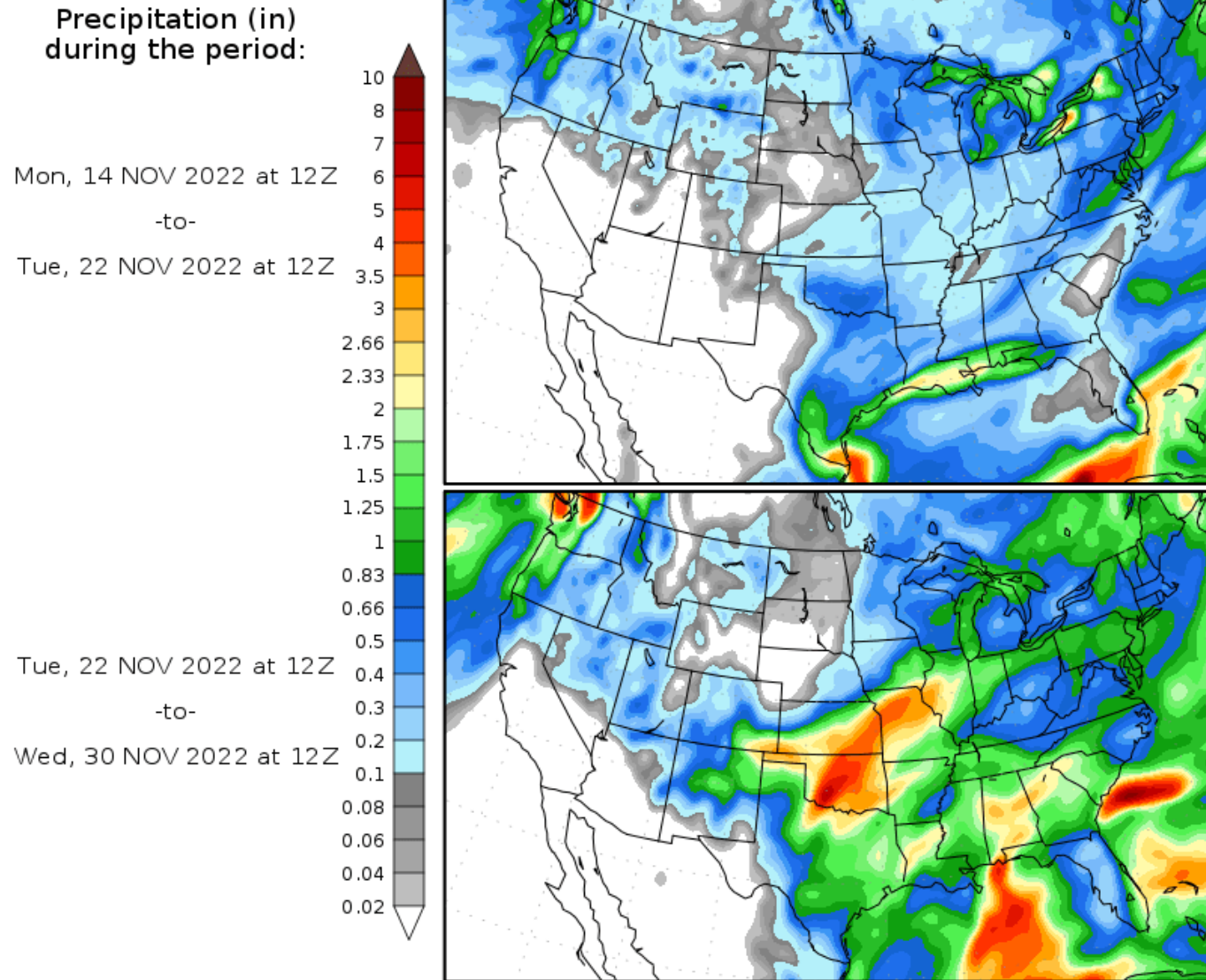
Upcountry Snowpack



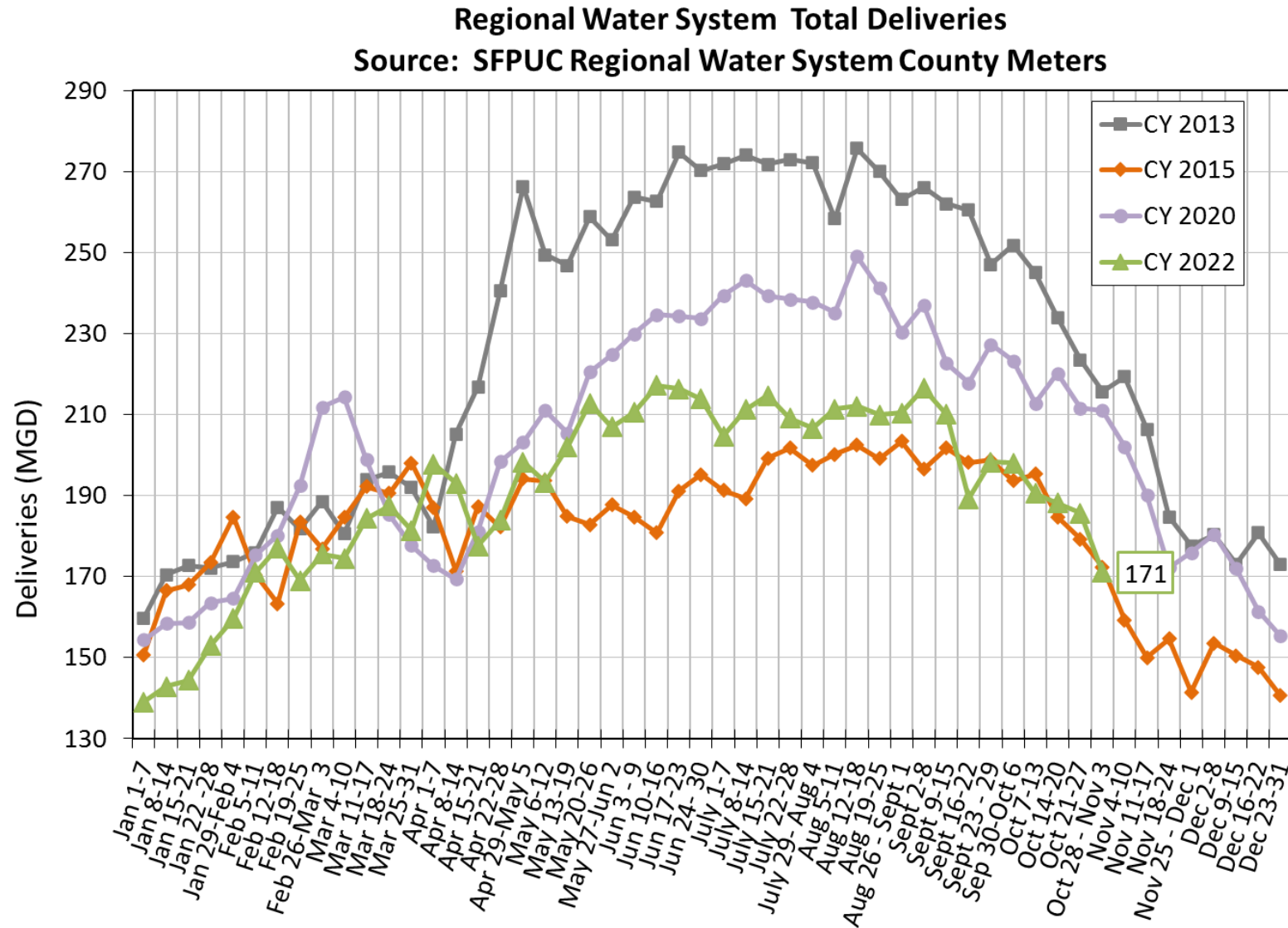
Water Available to the City



National Precipitation Forecast



Total Deliveries



Tuolumne Specific MOU Addendum

On Nov. 8, **the State and Tuolumne Parties (SFPUC, TID, MID)** signed a **Tuolumne Specific Addendum to the MOU** signed in March between leaders of state, federal and local agencies on the Sacramento River or who are part of the state and federal water projects.

This is a step forward towards resolving concerns regarding Bay-Delta Plan impacts.

The MOU outlines an eight-year program to provide:

- new flows for the environment,
- create new and restored habitat for fish and wildlife, and
- funding for environmental improvements and water purchases.

The Tuolumne Parties will work with the state to develop enforceable agreements with actions and funding to integrate additional water flows with the physical landscape to help improve habitat for native fish in the Tuolumne River watershed.

Tuolumne Specific MOU Addendum (*cont'd*)

Once finalized, the agreement will:

- Expand benefits for native fish species and the environment while offering reasonable protections for vital water supply.
- Add flows to the San Joaquin River from all Tuolumne parties to benefit native fish species.
(In addition to the current federal requirements.)
- Implement \$64 million in habitat projects within the 8-year term of the agreement to provide improved and increased habitat for native fish species.
- Resolve technical and operational issues
- Set a path forward to address various litigation filings surrounding Water Quality Certification of the Don Pedro Dam FERC Relicensing and Bay-Delta Water Quality Control Plan via incorporation of voluntary agreement terms into the Bay-Delta Plan and subsequent implementation actions.

Consent Calendar

- A. Approve Minutes of the September 15, 2022 Meeting
- B. Receive and File Budget Status Report – As of Sept. 30, 2022
- C. Receive and File Annual Audit Report for BAWSCA and Compilation Report for BAWUA for FY 2021-22
- D. Receive and File Directors' Reimbursement Report – As of Sept. 30, 2022
- E. Receive and File Bond Surcharge Collection, Account Balance and Payment Report–As of Sept. 30, 2022
- F. Receive and File Investment Report – As of October 31, 2022
- G. Annual Review of BAWSCA's Statement of Investment Policy
 - *The Committee voted unanimously to recommend Board approval of Consent Calendar Item #6G.*



Action Items



 **Only wash when the hamper's full**

 **Not full? Not today**

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Adoption of Resolution #2022-11 Approving the Extension of the 2021 Amended and Restated Tier 2 Drought Response Implementation Plan

Item #7A



Drought Shortages on Regional Water System Governed by Two Plans

- **Tier 1 Plan** – Allocates water between SFPUC Retail Customers and the Wholesale Customers collectively
- **Tier 2 Plan (or DRIP)** – Allocates water among the Wholesale Customers
 - Adopted in the Winter/Spring of 2011 by the governing body of each Wholesale Customer
- Tier 1 and Tier 2 Plans apply during system-wide shortages of 20 percent or less
- WSA Section 3.11(C)(3): SFPUC will honor Tier 2 allocations among the Wholesale Customers provided by BAWSCA or unanimously agreed to by all the Wholesale Customers.

Tier 2 Plan Originally Expired December 31, 2018

- Tier 2 Plan term was through December 31, 2018
 - Consistent with timing of SFPUC 2018 decisions per 2009 WSA
- WSA enables BAWSCA Board to extend the Tier 2 Plan
 - Per WSA Section 3.11(C)(3)
- May 2019: BAWSCA Board approved a 1-year Plan extension through Dec. 31, 2019
- Nov. 2019: BAWSCA Board approved a 1-year Plan extension through Dec. 31, 2020
- Nov. 2020: BAWSCA Board approved a 1-year Plan extension through Dec. 31, 2021
- Nov. 2021: BAWSCA Board approved a 1-year Plan extension through Dec. 31, 2022
- The Water Management Representatives (WMR) have been engaged and supportive of the Tier 2 adoptions by the Board for each of the successive years
 - Appropriate to delay renegotiations of new Tier 2 until State efficiency requirements known

BAWSCA is Facilitating Negotiations Between the WMR to Update the Tier 2 Plan

- In Jan. 2022, BAWSCA and the member agencies initiated an update to the Tier 2 Plan
- Each agency appointed a lead negotiator to represent their agency's interests and perspectives
- Agencies have agreed to a set of policy principles to guide model development
- Between January and August 2022, negotiations were held during monthly WMR meetings in a remote setting
- In-person meetings began in September to supplement discussions at monthly WMR meetings
- BAWSCA is encouraged by the productive discussions and progress made to date
- However, it is not feasible to finalize an updated Tier 2 Plan and have all member agencies adopt it by the end of the calendar year


Current Implementation of Tier 2 Plan


- In November 2021, SFPUC declared a water shortage emergency, triggering implementation of the Tier 1 and Tier 2 Plans for the first time
 - During 2015-2017 drought, Governor Brown mandated water use reductions across the state, superseding the Tier 1 and Tier 2 Plans
- Given that the SFPUC's November 2021 drought emergency declaration remains in effect and the Tier 2 Plan is currently being implemented, it is recommended that the Board extend the term of the 2021 Amended and Restated Tier 2 Plan

Recommended Action

That the Board adopt Resolution 2022-11 extending the term of the 2021 Amended and Restated Tier 2 Plan through December 31, 2023.


Special Report: Water Demand Projections Update



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2022 Demand Study Update

November 17, 2022

- BAWSCA completed a Regional Water Demand and Conservation Projections Study (2020 Demand Study) in June 2020.
- Since then, several efforts at state level and by BAWSCA member agencies will impact the projections prepared.
 - Recently completed 2020 Urban Water Management Plans (UWMPs) provide updated water demands, population projections, and conservation efforts.
 - California proposed new water efficiency targets that are anticipated to impact member agencies' conservation strategies.
 - Long-term impacts of COVID-19 and other matters outside member agency control that will impact water use were worthy of consideration in demand estimates.
- Updated and defensible demands are required to support long-term planning efforts

2022 Demand Study Update Objectives

Objective 1

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

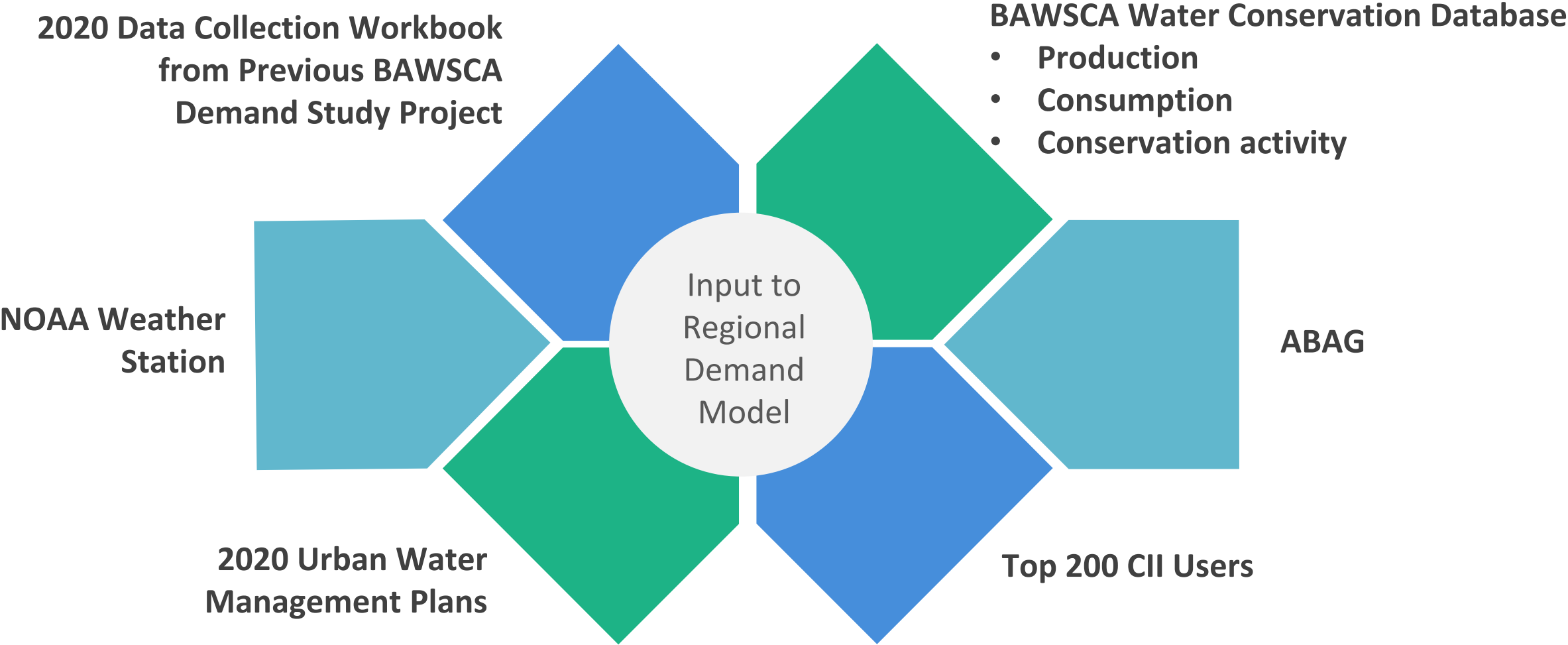


Objective 2

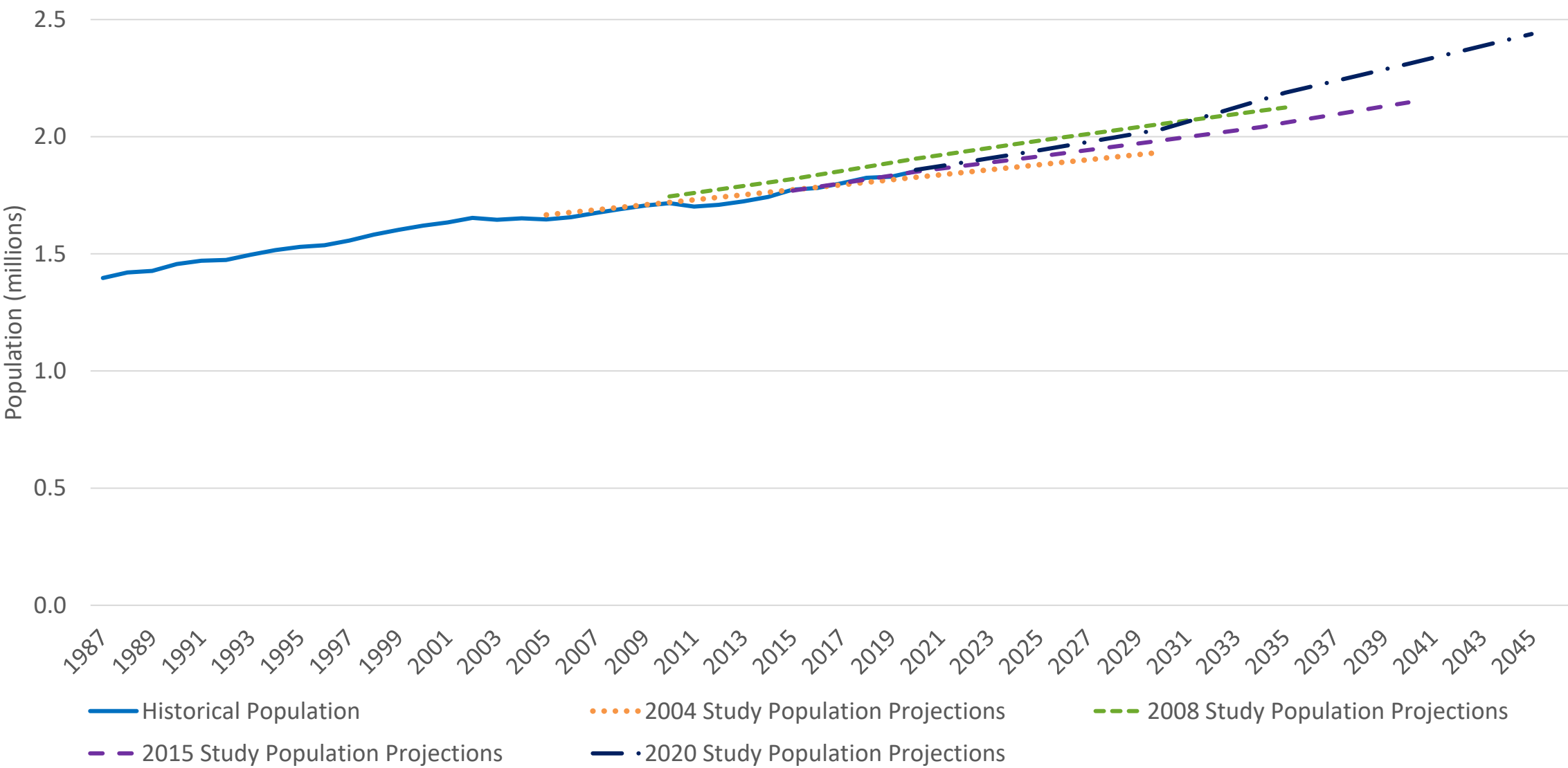
Perform sensitivity analyses to better understand and quantify the uncertainty associated with demand estimates and variables that influence water demands



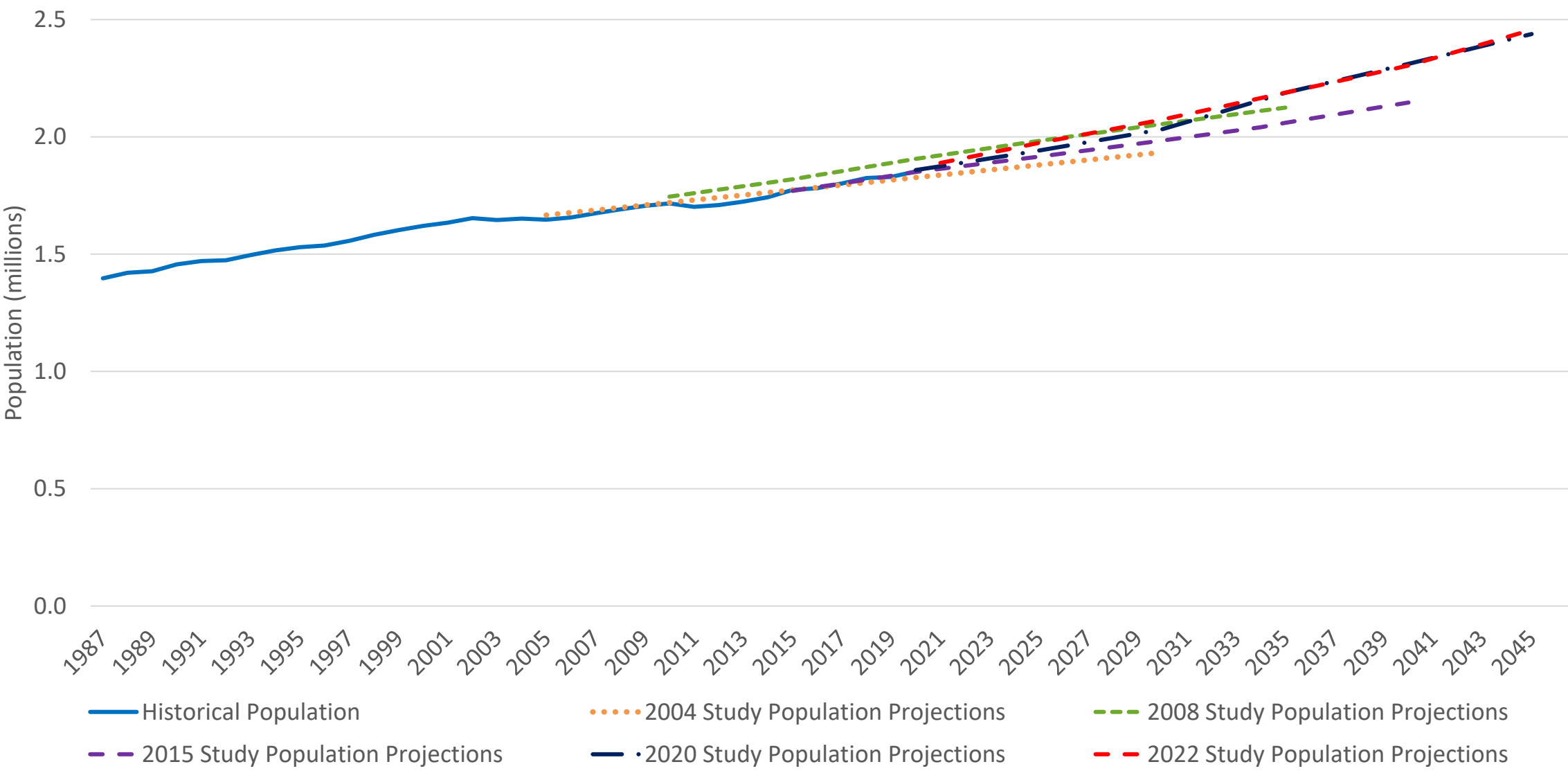
Regional Demand Models Rely Significantly on Recent Data Obtained by BAWSCA Member Agencies



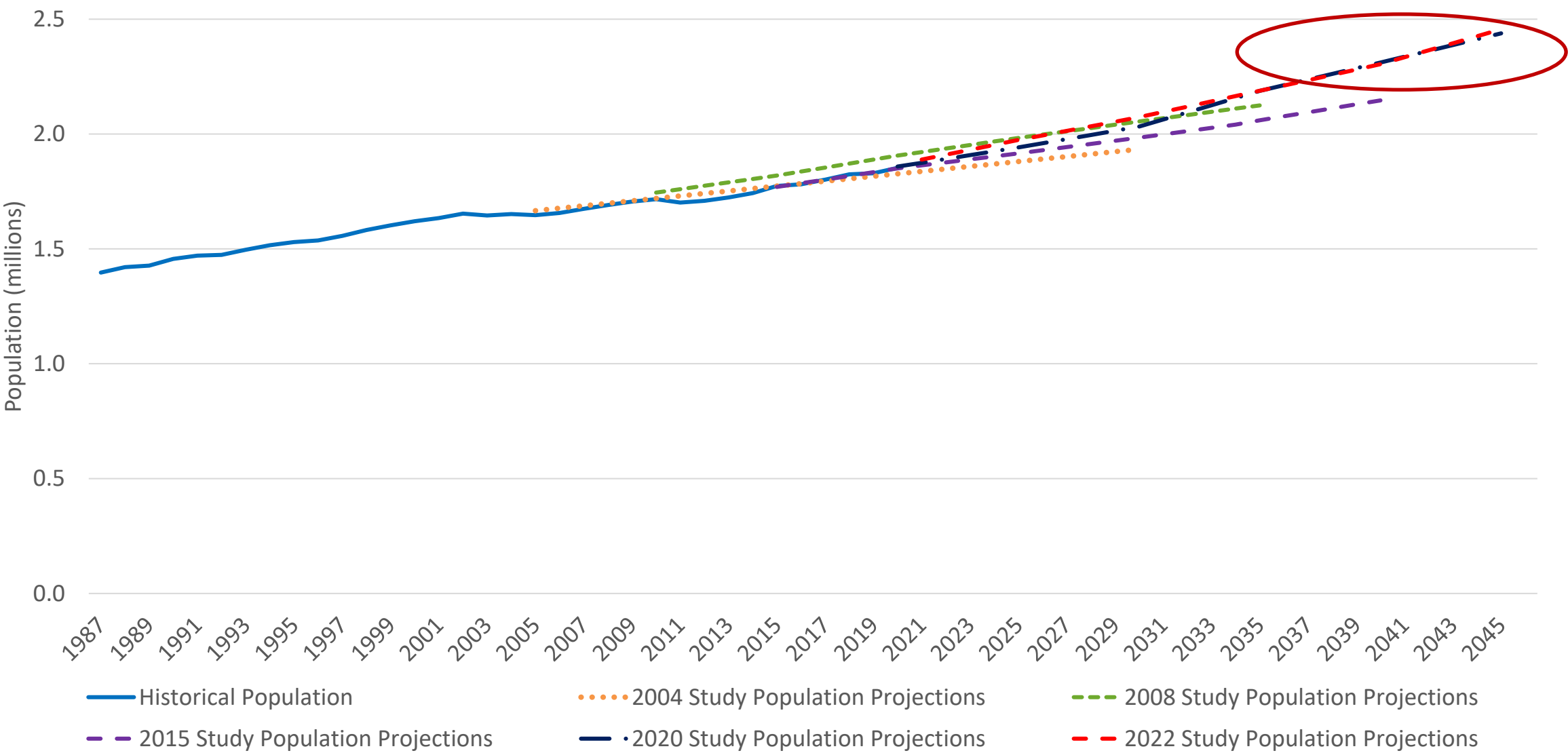
BAWSCA Region-Wide Population Projections are Tracking Close to Actual Population Throughout the Last Two Decades



BAWSCA Region-Wide Population Projections are Tracking Close to Actual Population Throughout the Last Two Decades



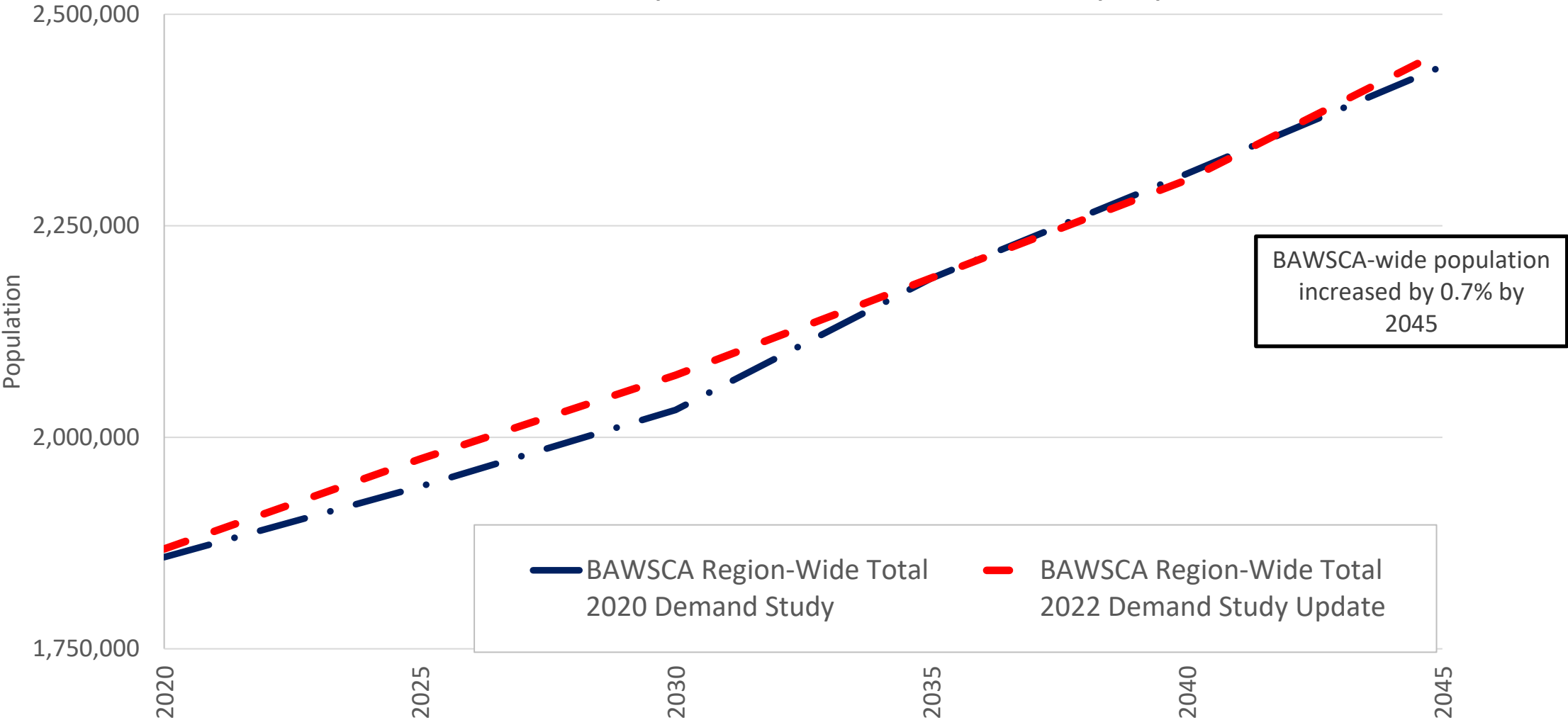
BAWSCA Region-Wide Population Projections are Tracking Close to Actual Population Throughout the Last Two Decades



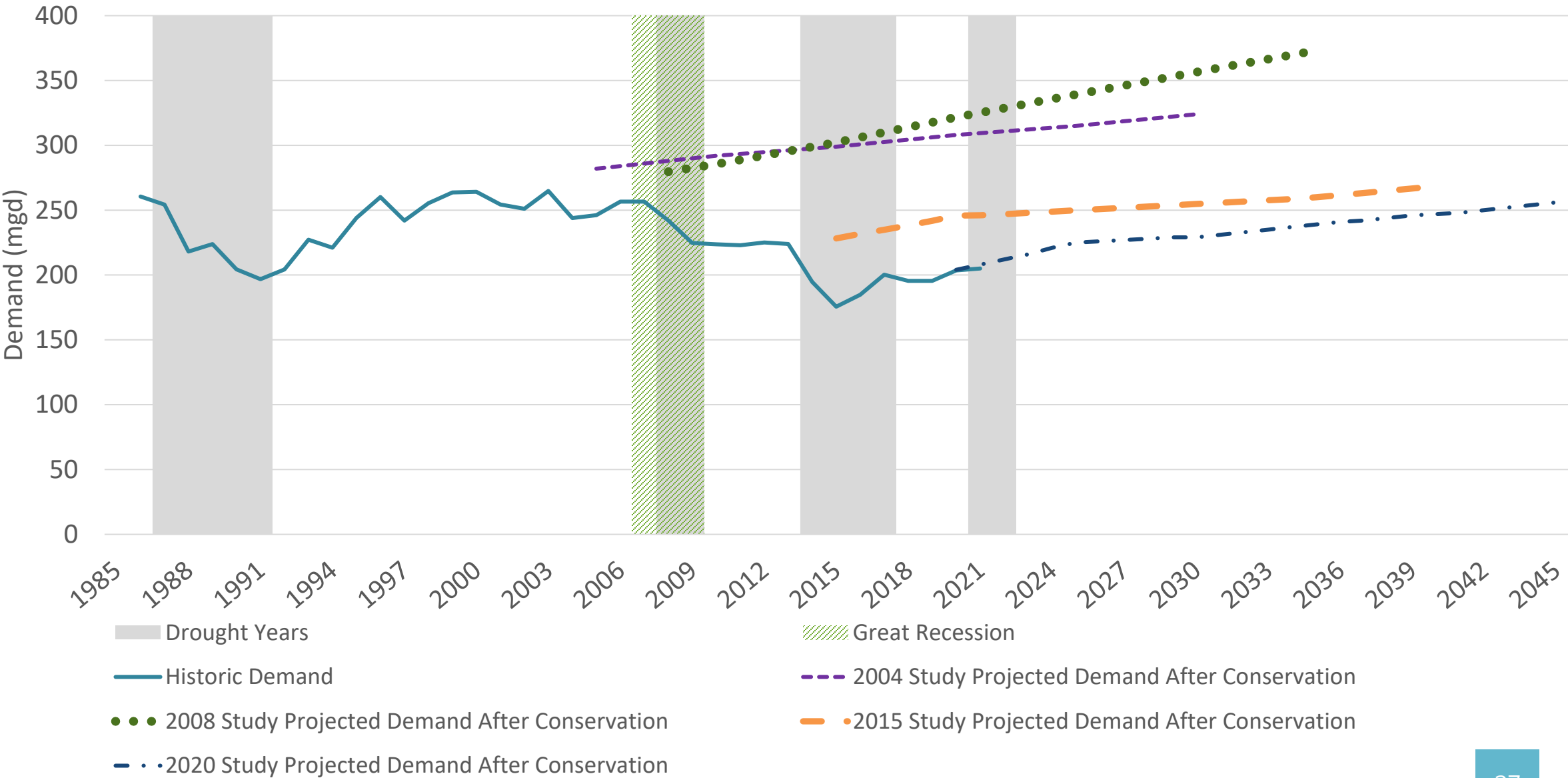
Comparison Between 2020 BAWSCA Demand Study & 2022 Demand Study Update Region-wide Population Projections



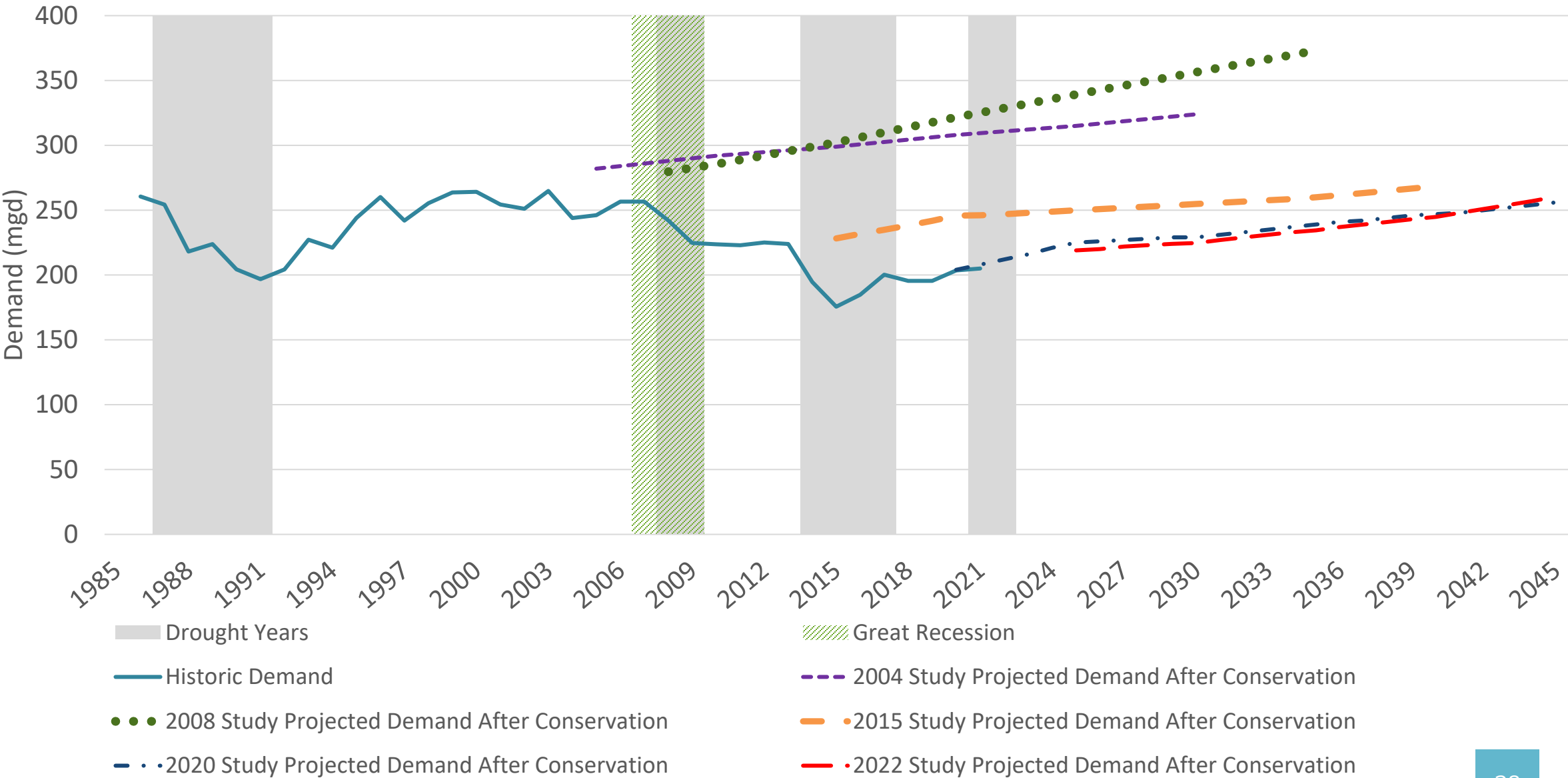
2020 Demand Study vs. 2022 Demand Study Update



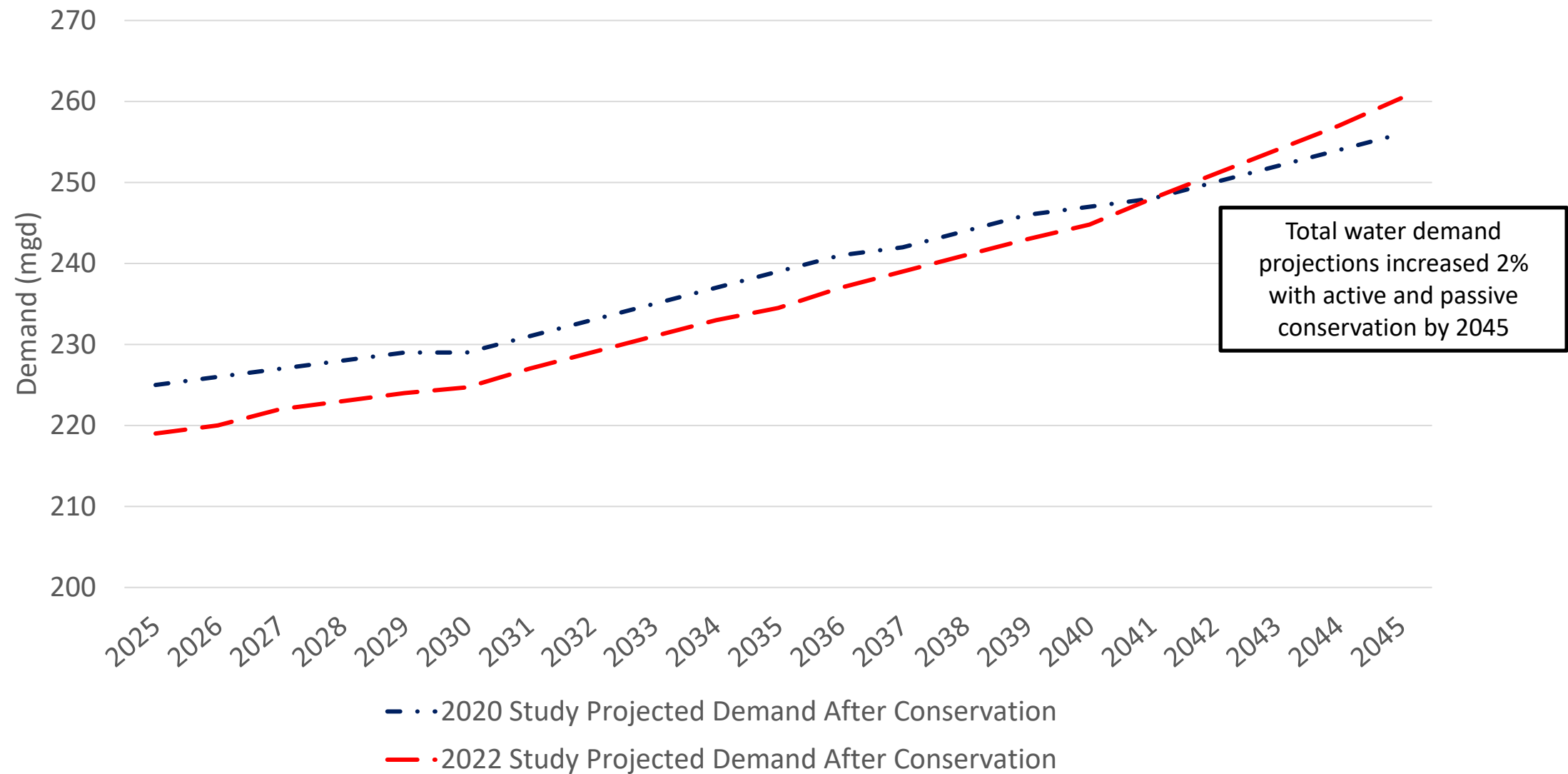
BAWSCA Region-Wide Demand Projections have Varied Throughout the Last Two Decades



BAWSCA Region-Wide Demand Projections have Varied Throughout the Last Two Decades



Comparison Between 2020 BAWSCA Demand Study & 2022 Demand Study Update Region-Wide Demand Projections



Key Takeaways from the Demand Study Update

Projections

Total water demand projections increased 2% with active and passive conservation by 2045



Population

BAWSCA-wide population increased by 0.7% by 2045



Recycled Water

Recycled water increased by approximately 2% by 2045



Other Factors

Other factors impacting demands:

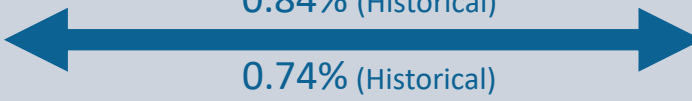
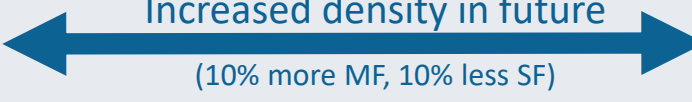

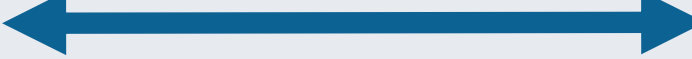

- Job projections
- Conservation
- Shift to more Multi-Family housing



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
- Inform future planning decisions

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)		1.1% (ABAG) 1.0% (ABAG)
2. Housing Density	New housing built (at retail level through 2045)	Continued historical patterns (% SF, % MF)		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)		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 7. Economic Cycles	Applied to all scenarios to set baseline demand (normalizes demand for seasonal weather fluctuations and short-term economic cycles)			

- Five alternative futures were developed for scenario planning
 - All scenarios use baseline water demands, normalized for seasonal weather and short-term economic cycles (Variables 6 and 7)
 - Each scenario uses a unique combination of Variables 1-5
- Three preliminary scenarios were formulated by the Project Team
- Two additional scenarios were developed with stakeholder input

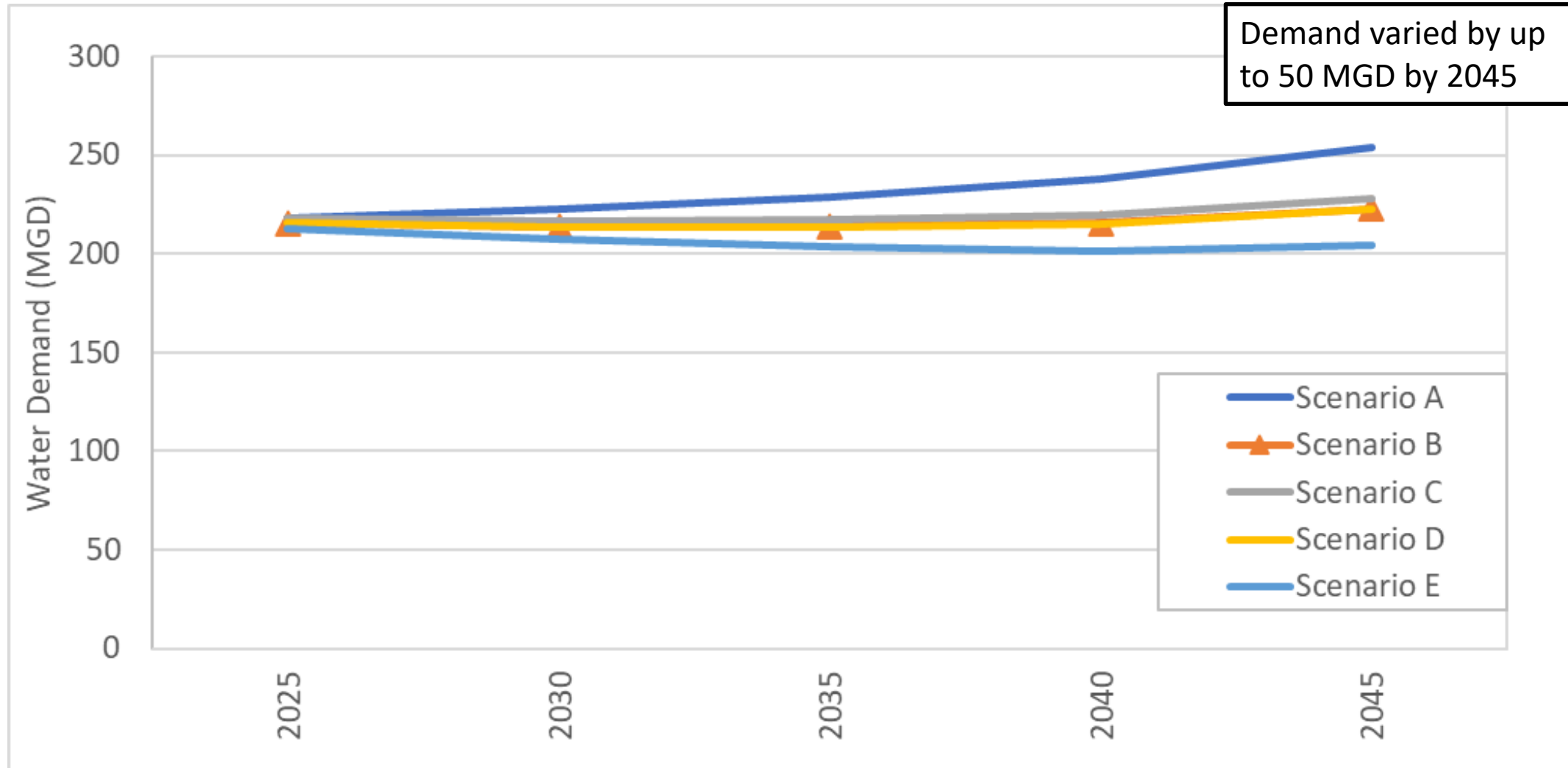
Scenario A : Bay Area's Economy Remains Similar to Recent Past

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)	<div> <div>0.84% (Historical)</div> <div>0.74% (Historical)</div> <div>1.1% (ABAG)</div> <div>1.0% (ABAG)</div> </div>
2. Housing Density	New housing built (at retail level through 2045)	Continued historical patterns (% SF, % MF)	<div> <div>Increased density in future</div> <div>(10% more MF, 10% less SF)</div> <div>Increased density in future</div> <div>(15% more MF, 15% less SF)</div> </div>
3. Long-term Climate Change	°F warming	1.6 °F RCP 4.5: global CO2 emissions peak by 2045	<div> <div>2.2 °F</div> <div>RCP 8.5: global CO2 emissions continue to rise through 21st century</div> </div>
4. Water Rates	Future increase to SFPUC wholesale water rates above CPI	0% (consistent with CPI)	<div> <div>1.8%</div> <div>2.3%</div> <div>(75% rate increase by 2045)</div> </div>
5. Conservation	% annual demand reduction	0.5% (programs selected in BAWSCA's 2020 Demand Study)	<div> <div>0.625%</div> <div>(assuming agencies achieve an additional 25% savings beyond selected water conservation programs)</div> </div>
6. Seasonal Weather 7. Economic Cycles	<div>Applied to all scenarios to set baseline demand</div> <div>(normalizes demand for seasonal weather fluctuations and short-term economic cycles)</div>		

Scenario E : Aggressive Climate Change and Lower Economic and Population Growth

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) 0.74% (Historical)	1.1% (ABAG) 1.0% (ABAG)
2. Housing Density	New housing built (at retail level through 2045) Continued recent (2015-2020) 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 RCP 4.5: global CO2 emissions peak by 2045 1.6 °F		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%	1.8%	2.3% (75% rate increase by 2045)
5. Conservation	% annual demand reduction (programs selected in BAWSCA's 2020 Demand Study to meet anticipated water use targets) 0.5%		0.625% (assuming agencies achieve an additional 25% savings beyond anticipated water use targets)
6. Seasonal Weather 7. Economic Cycles	Applied to all scenarios to set baseline demand (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.

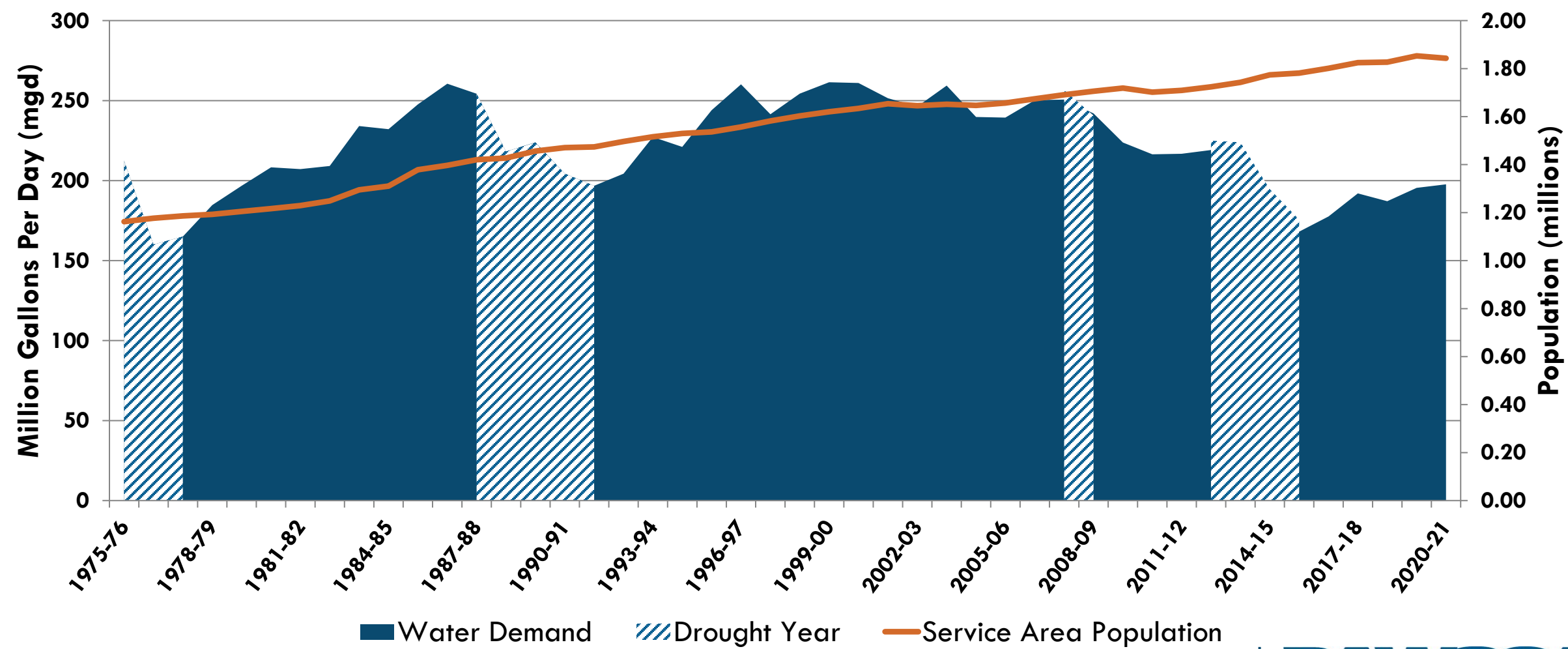
Moving Forward

- 2022 Demand Study Update including the sensitivity analysis results will be published next month.
- Continue to track actuals against projections for both variables and demands.
- Continue to track other external factors that impact the variables used in the sensitivity analysis.
- Use demand study results to support BAWSCA's Long-Term Reliable Water Supply Strategy
- Use demand study results to support decisions on SFPUC's Alternative Water Supply plan.
- The updated demand models are critical tools that support BAWSCA and its member agencies in advancing conservation in the region.

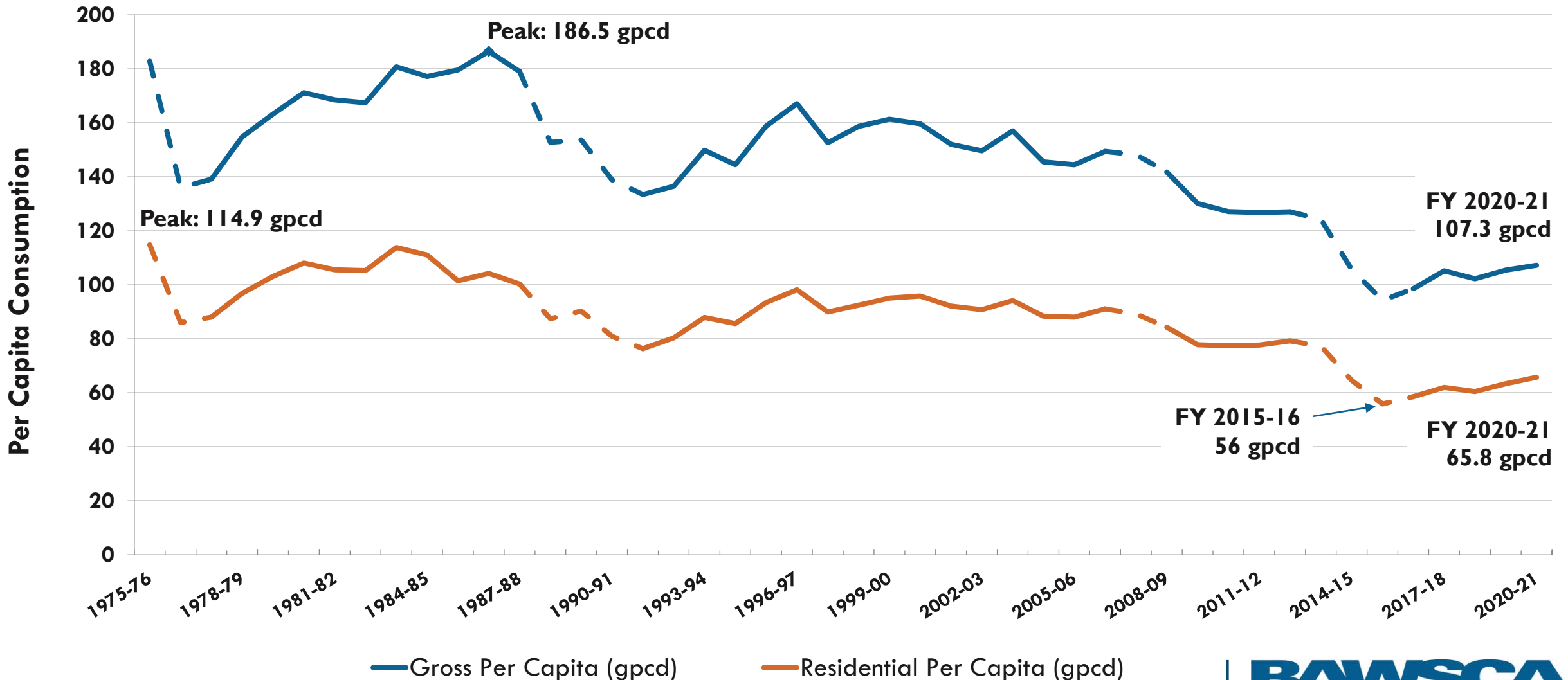
CEO Reports



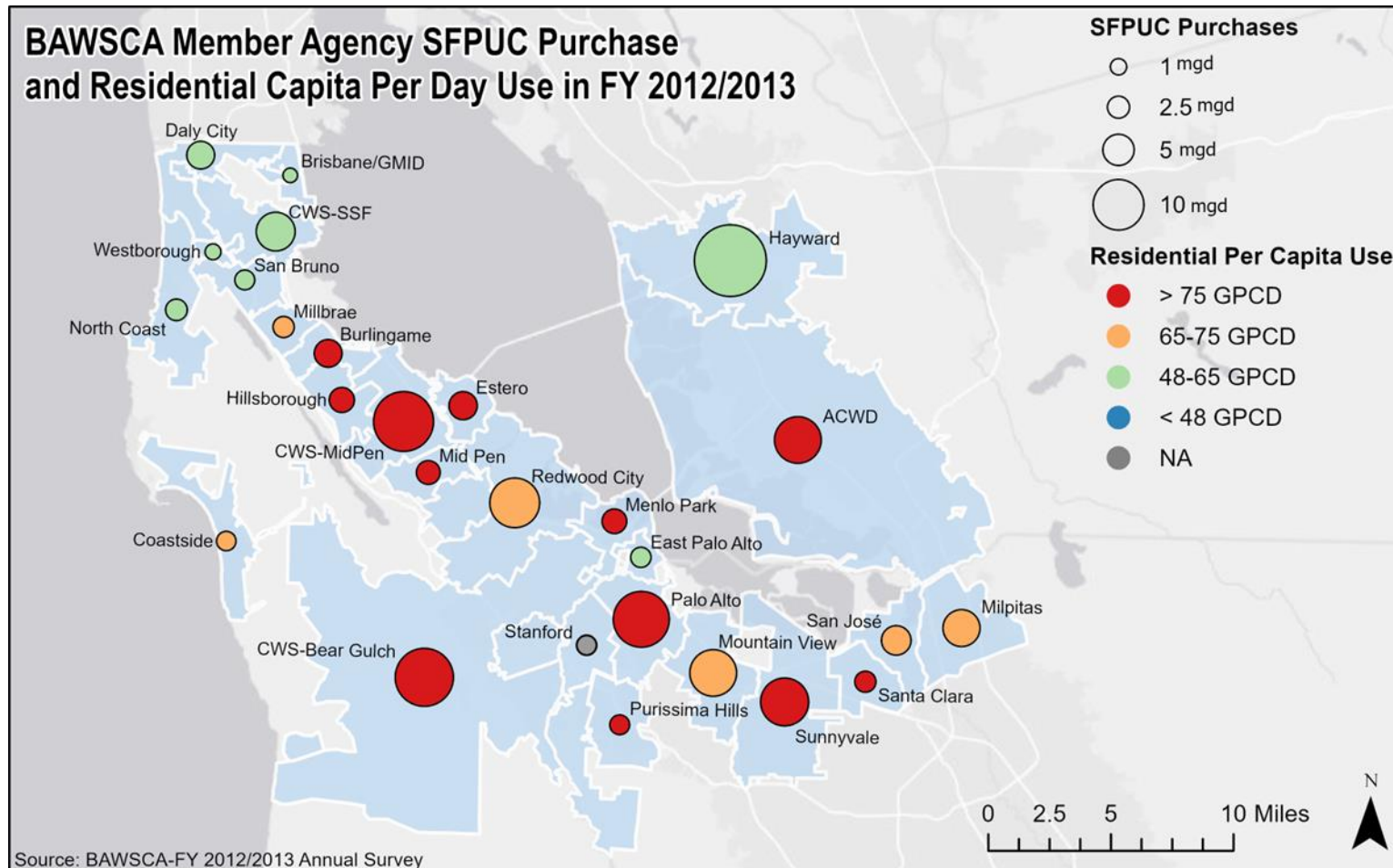
24% Less Water Used Today in BAWSCA Region Compared to FY 1986/87 Despite a 32% Population Increase



Residential Per Capita Water Use Has Decreased by 37% in BAWSCA Region Since FY 1986/87

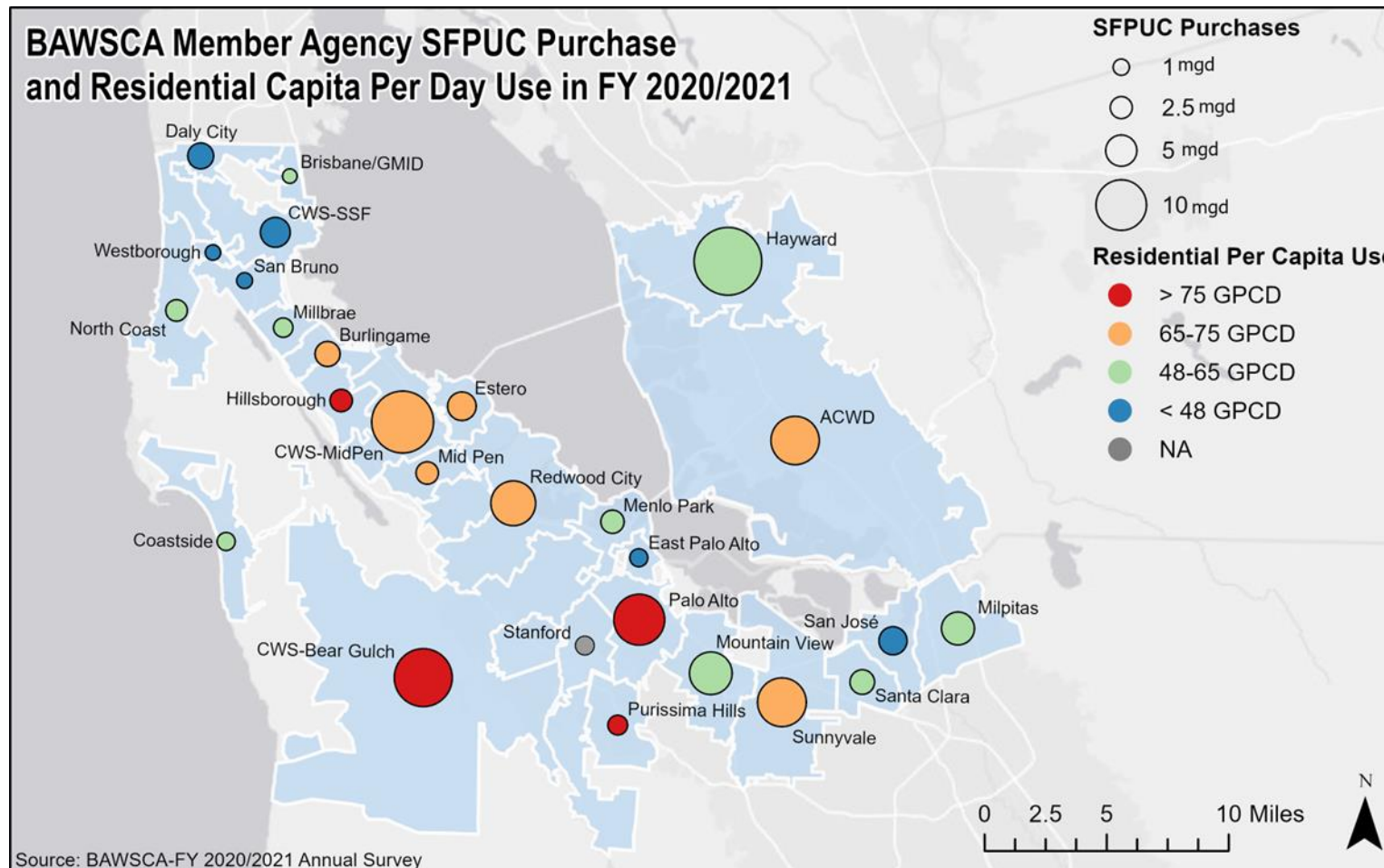


Average Residential Water Use in BAWSCA Region in FY 2012/13 was 71 GPCD



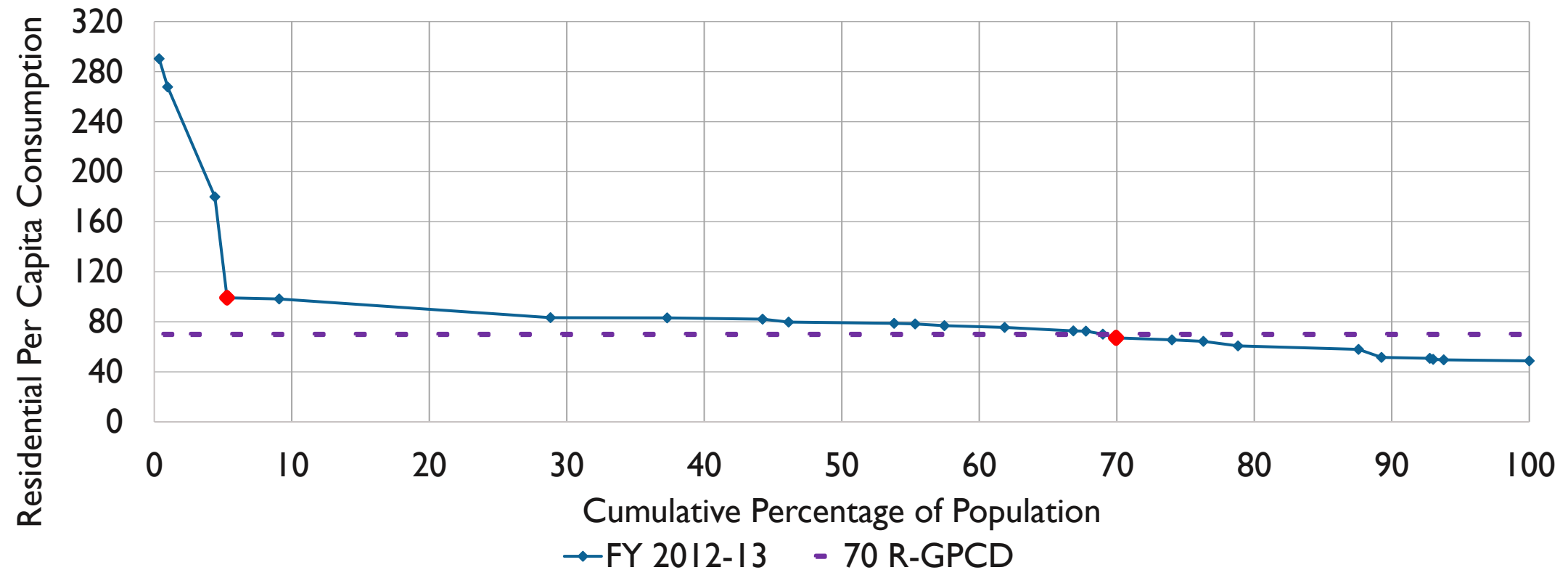
- No agencies using < 48 GPCD
- 9 agencies using 48-65 GPCD
- 12 agencies using > 75 GPCD
- 49 GPCD SF Retail Residential Use (avg.)

Average Residential Water Use in BAWSCA Region in FY 2020/21 was 66 GPCD

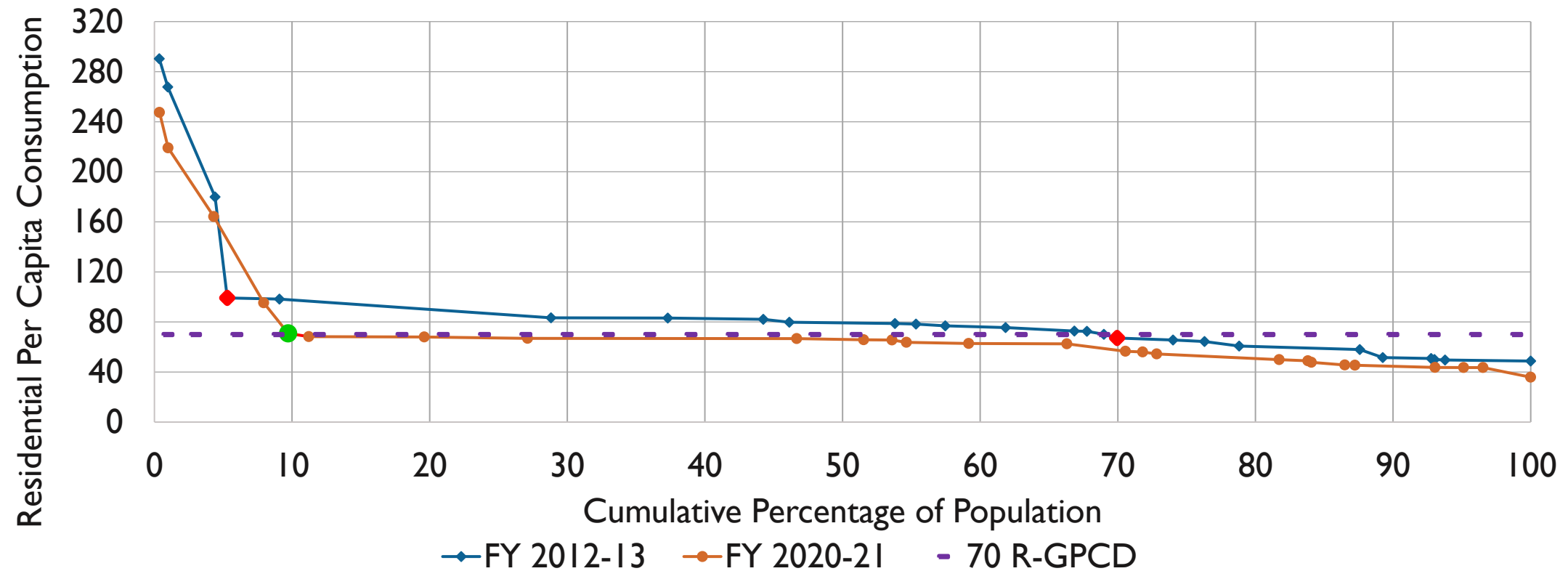


- 9 agencies using < 48 GPCD
- 8 agencies using 48-65 GPCD
- 4 agencies using > 75 GPCD
- 42 GPCD SF Retail Residential Use (avg.)

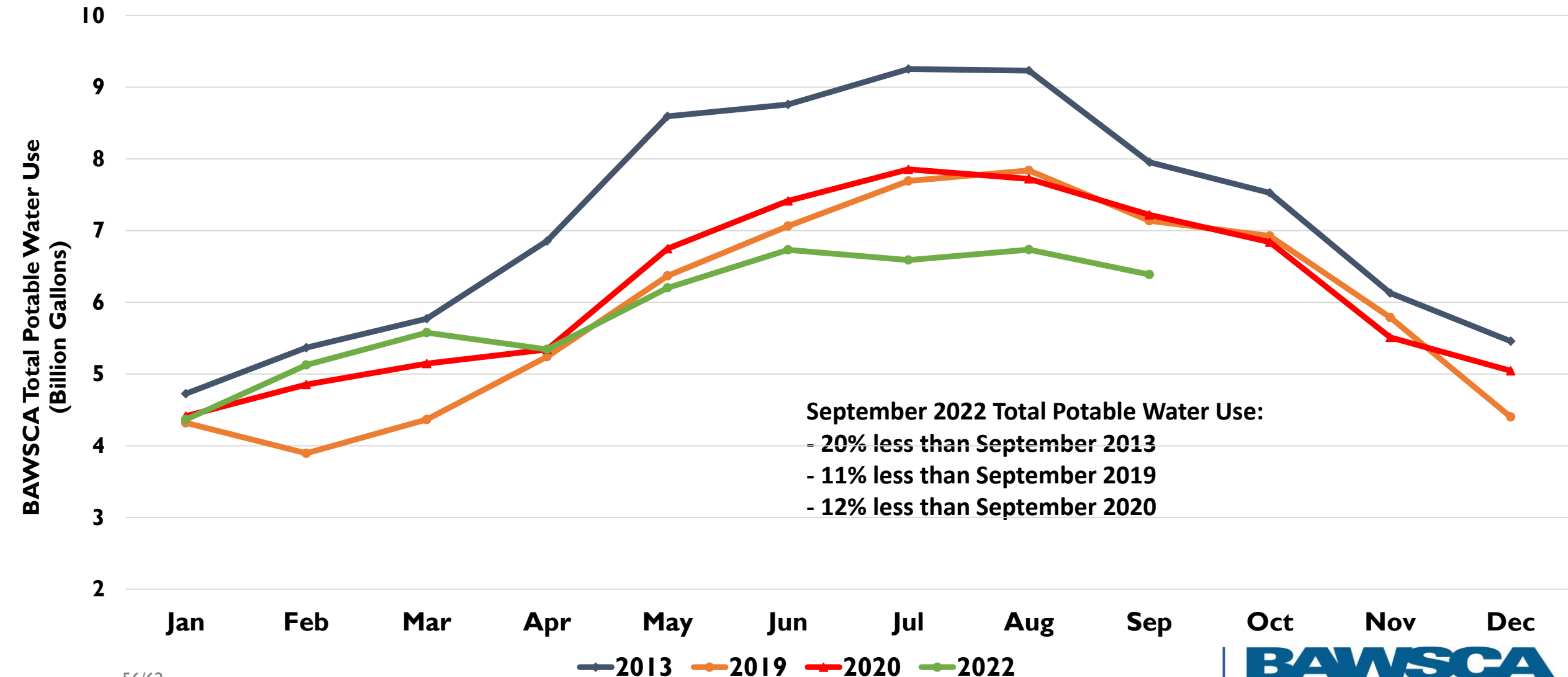
In FY 2012/13, 31% of Water Customers in the BAWSCA Region Used Less Than 70 Gal Per Day



In FY 2020/21, 90% of Water Customers in the BAWSCA Region Use Less Than 70 Gal Per Day, Compared to 31% in FY 2012/13



BAWSCA September 2022 Total Potable Water Use 20% Less Than September 2013



BAWSCA Working with Its Member Agencies to Achieve Necessary Water Savings

- BAWSCA and its member agencies are committed to responding to the Governor's and SFPUC's call for water use reductions
- BAWSCA and its member agencies respect the Governor's leadership in responding to the current drought
- Water customers are responding to the call for increased water conservation
- Cumulative savings not yet achieving overall RWS target reductions
- What further actions are needed at the water supplier level and regionally?
- BAWSCA working with the its member agencies and the SFPUC to identify further steps to reduce water use in anticipation of another dry year



Parties Agree to a Tuolumne River Addendum March 2022

Memorandum of Understanding (MOU) Related to Bay Delta Plan

- In March, the State and dozens of local agencies signed the MOU Advancing a Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Plan
- Last week, the State, SFPUC, and Modesto and Turlock Irrigation Districts reached agreement on a Tuolumne River specific addendum to the MOU that provides:
 - Greater water flows on the Tuolumne River to benefit native fish species above the existing required flows
 - Implementation of \$64M in habitat projects over the 8-year MOU term
 - A reliable supply of high-quality water at a fair price for the 1.8 million residents and over 40,000 businesses that BAWSCA represents and that rely on the Tuolumne River water supply
- The next step is for the MOU signatories and others to work out the implementation details of a Bay-Delta wide voluntary agreement for evaluation by the State Water Resources Control Board as an alternative to the adopted Bay-Delta Plan

Final Success Will Require Continued Focus and Active Support from the Region and Others

- Achieving this milestone step is a result of work by many parties:
 - BAWSCA congratulates the SFPUC and General Manager Herrera for their successful effort
 - BAWSCA thanks Governor Newsom and his water executives for their leadership, as well, for this critically important result
 - BAWSCA also appreciates the support delivered for this effort by the Silicon Valley Leadership Group, the Bay Area Council, and labor unions in Alameda and San Mateo Counties
- Success will require a continued level of focus and support
- Final resolution will take time and BAWSCA will continue its active support until the job is finished

Closed Session



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Directors' Discussion: Comments, Questions, and Agenda Requests



Next Meeting and Adjournment

Next Meeting

January 19, 2023
6:30 pm

