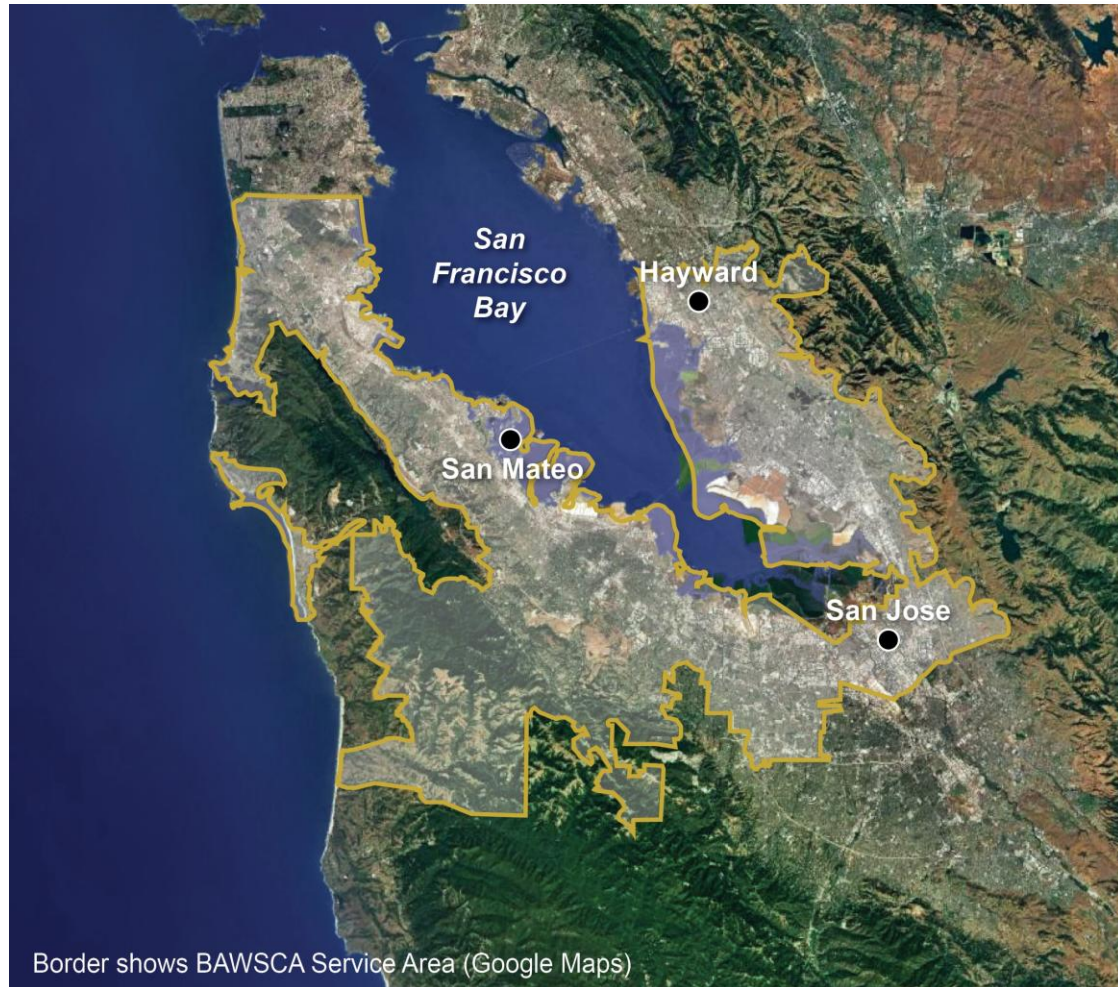




“A multicounty agency authorized to plan for and acquire supplemental water supplies, encourage water conservation and use of recycled water on a regional basis.”

[BAWSCA Act, AB2058 (Lou Papan-2002)]

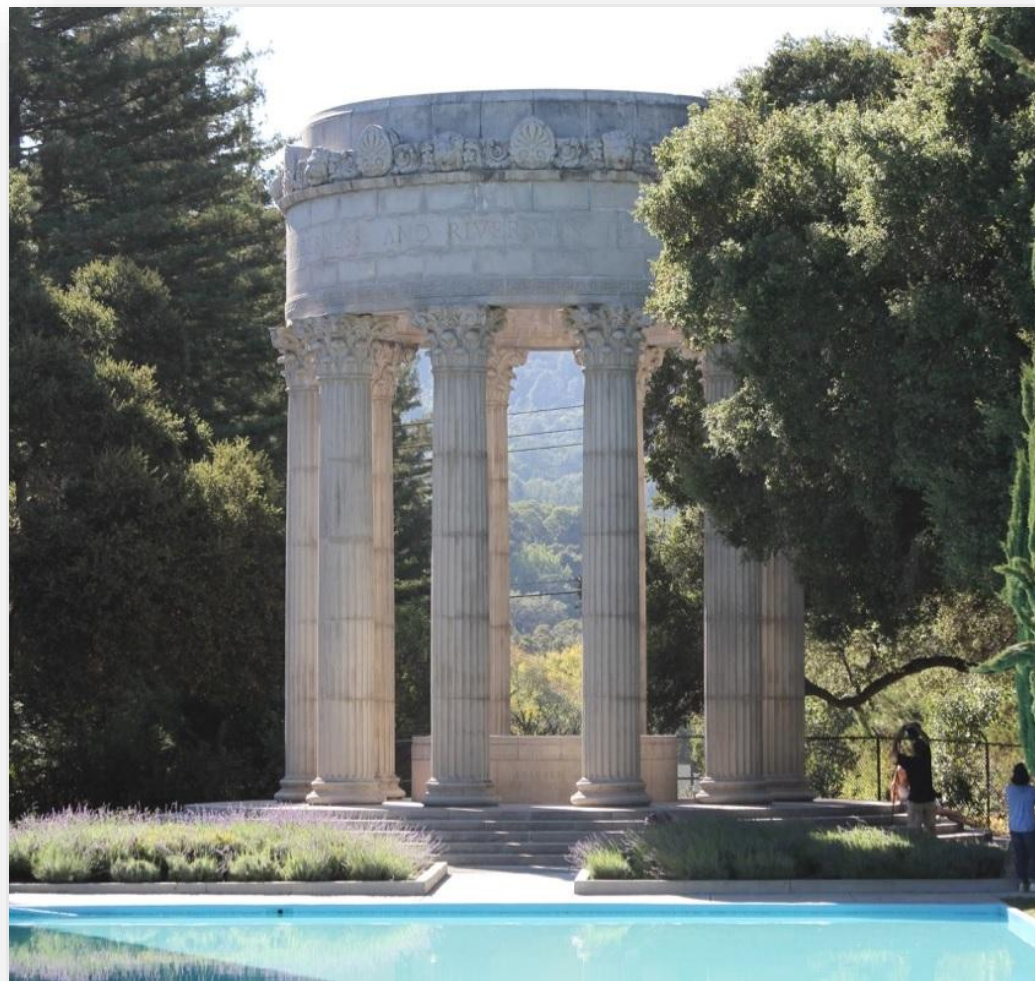
Water Management Representatives Meeting

July 9, 2026

Call to Order and Introductions



SFPUC Report



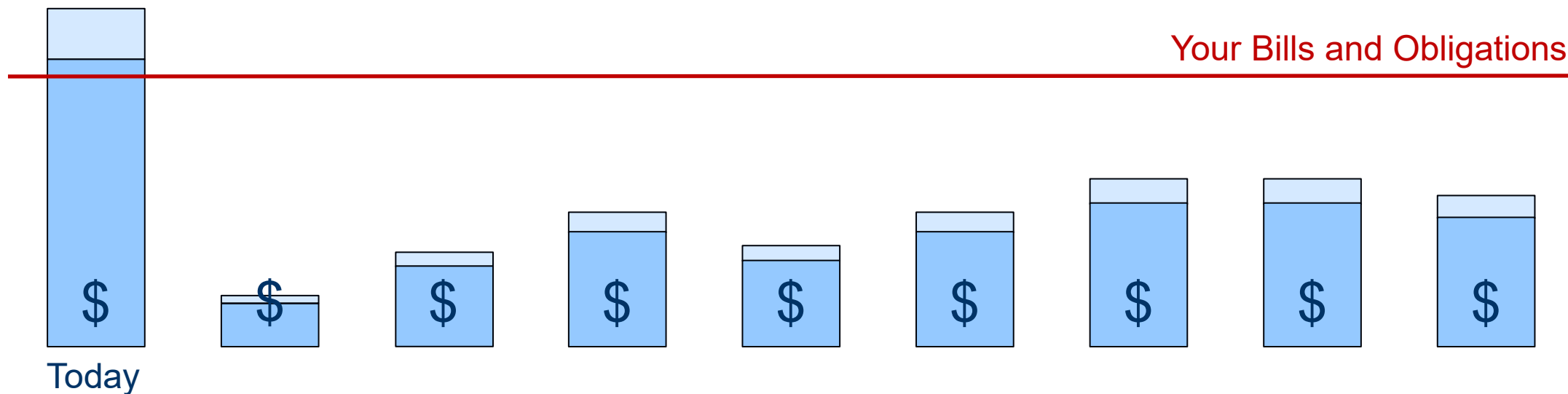
L. Ash, 2017

San Francisco's Water Operations and Design Drought

July 2026

Imagine

- Today, your paycheck and a small ad royalty payment are your family's entire income.
- Tomorrow you could be laid off, suffer a medical emergency or be in an accident.
- Your income suddenly is only disability, partial paycheck or nothing.
- What would you do/what have you done to prepare for this possibility?
- Do you have savings? Retirement? Disability Insurance?



Hetch Hetchy Regional Water System

- We rely almost exclusively on Tuolumne River (85% of supply) and local surface water supplies.
- Our Tuolumne River water rights are junior to Modesto and Turlock Irrigation District water rights – meaning they are first when there is limited supply.
- We get to divert plenty of water in wet years but little to none in dry years.

We Rely on Storage and Water Bank

- Our Tuolumne River system storage plus Water Bank reduces the impact of multi-year droughts.
- Storage carried over year-to-year is our only means to survive a defined drought.
- We can't predict the end of a multi-year drought, and the consequences of running out of water are enormous.
- We cannot plan for our water supply to be completely used up.

Our Approach To Drought Management

- San Francisco's drought management is driven by three factors:
 - Our water resources
 - Our water rights
 - Our experience
- All water agencies consider these factors in their planning, but how they fit together in a reasonable, credible and effective plan differs among agencies.

Tuolumne River System Storage

Tuolumne System Reservoir Storage Capacity						
	Hetch Hetchy		360,360	acre-feet		
	Cherry		273,345	acre-feet		
	Eleanor		27,100	acre-feet		
	TOTAL		660,805	acre-feet		
Don Pedro Water Bank Storage Capacity						
			570,000	acre-feet		

**Water flows to
Hetch Hetchy Regional
Water System Reservoirs
(Hetchy Hetchy, Cherry
or Eleanor), then down
the Tuolumne River to
Don Pedro Reservoir**

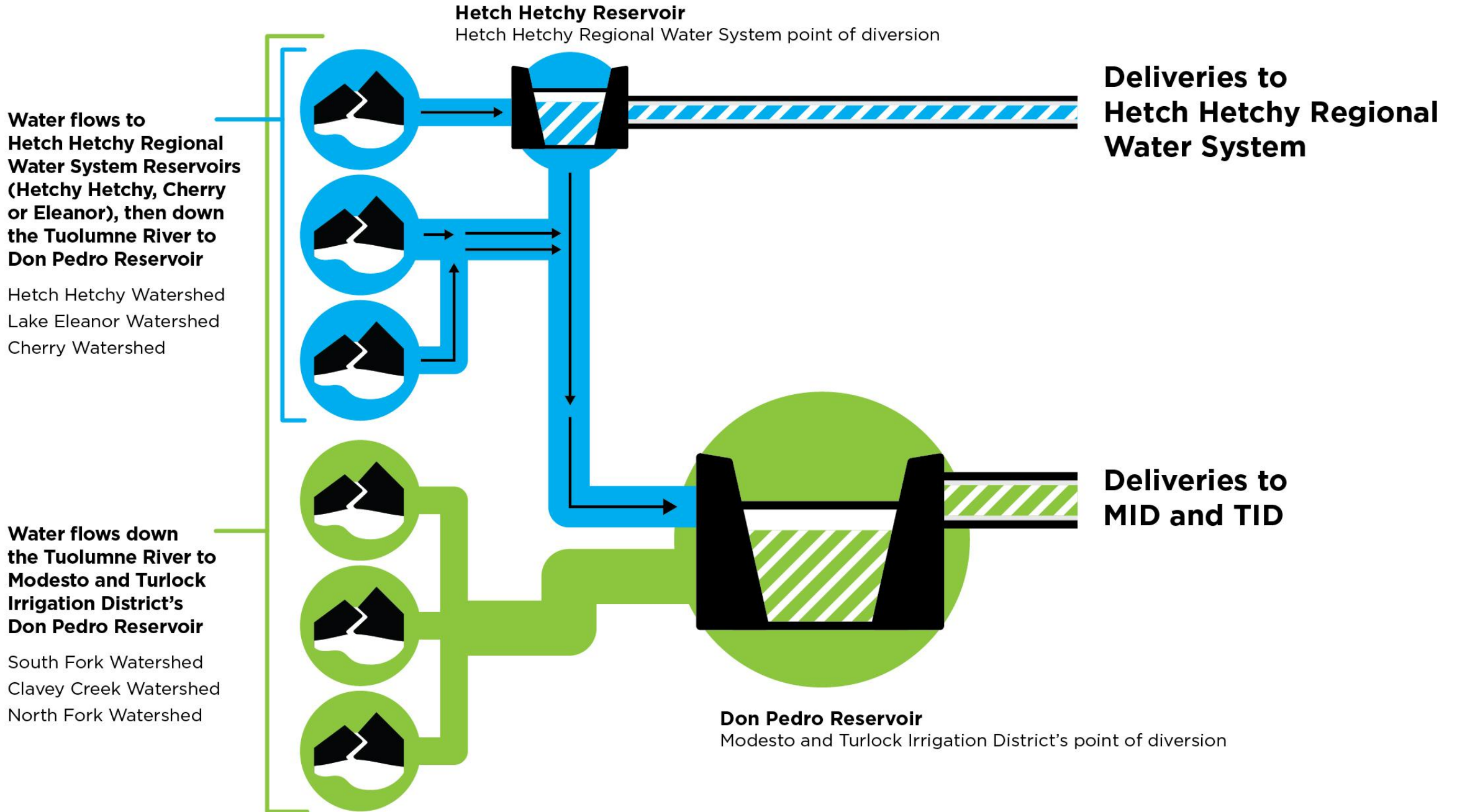
Hetch Hetchy Watershed
Lake Eleanor Watershed
Cherry Watershed

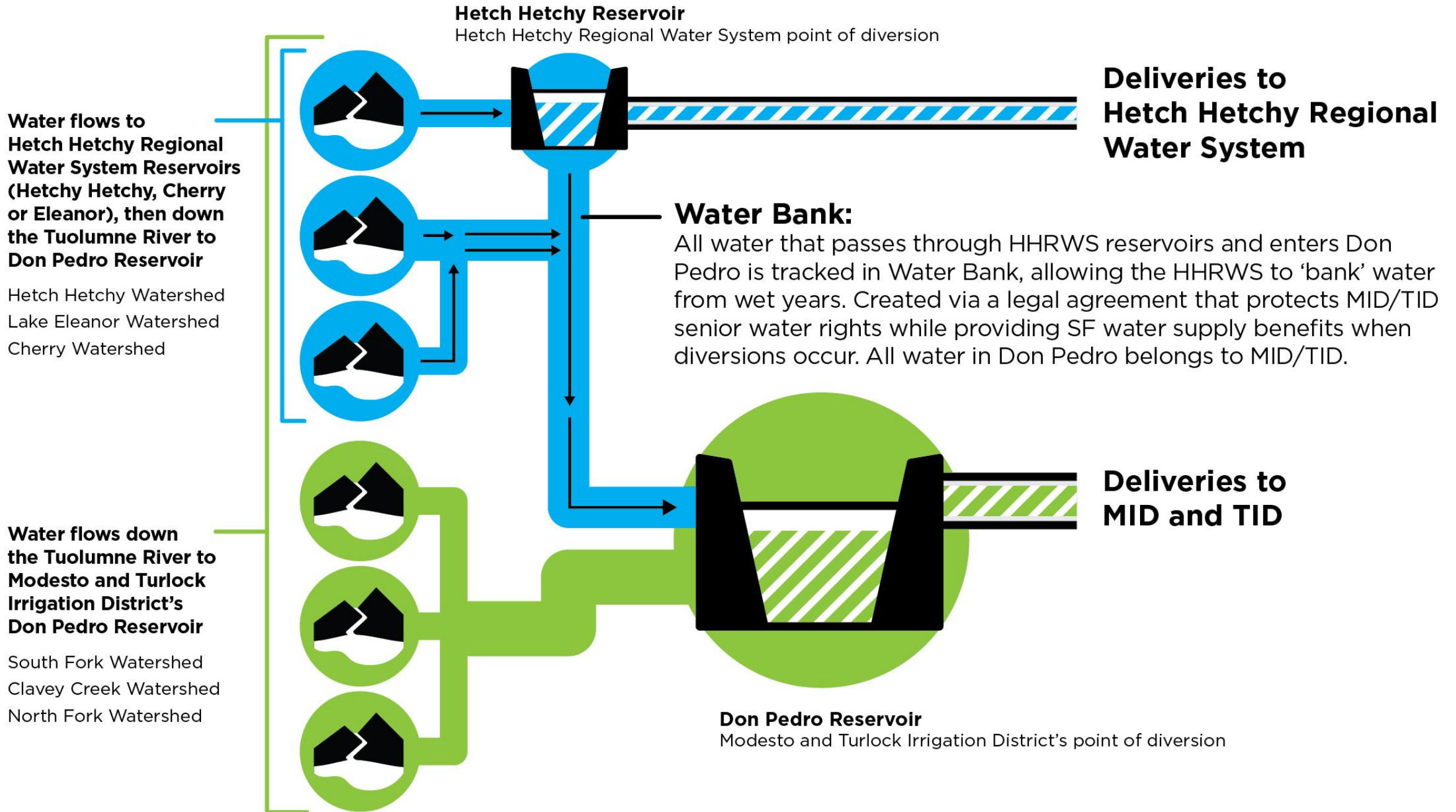


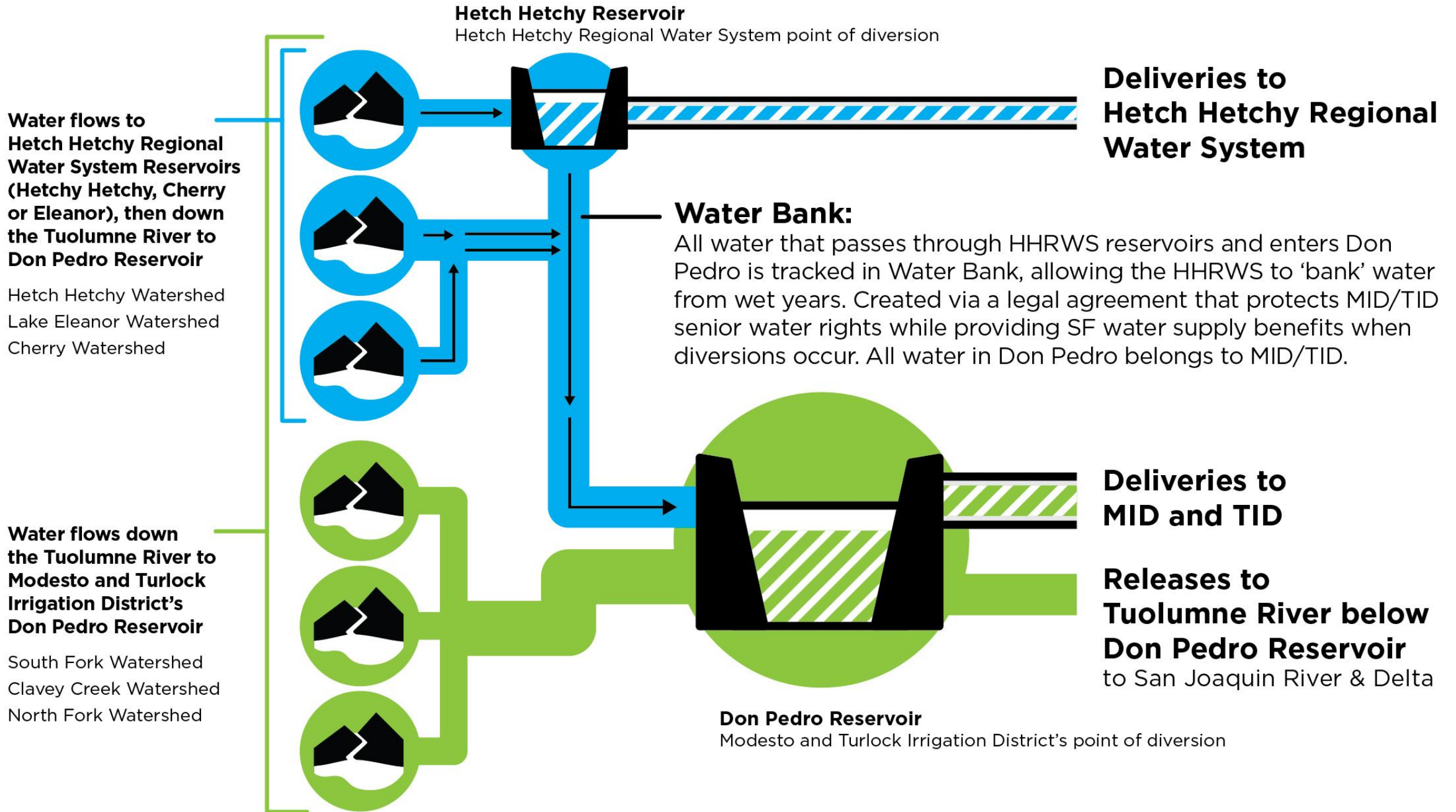
**Water flows down
the Tuolumne River to
Modesto and Turlock
Irrigation District's
Don Pedro Reservoir**

South Fork Watershed
Clavey Creek Watershed
North Fork Watershed









San Francisco's Entitlements on the Tuolumne River in the 1913 Raker Act

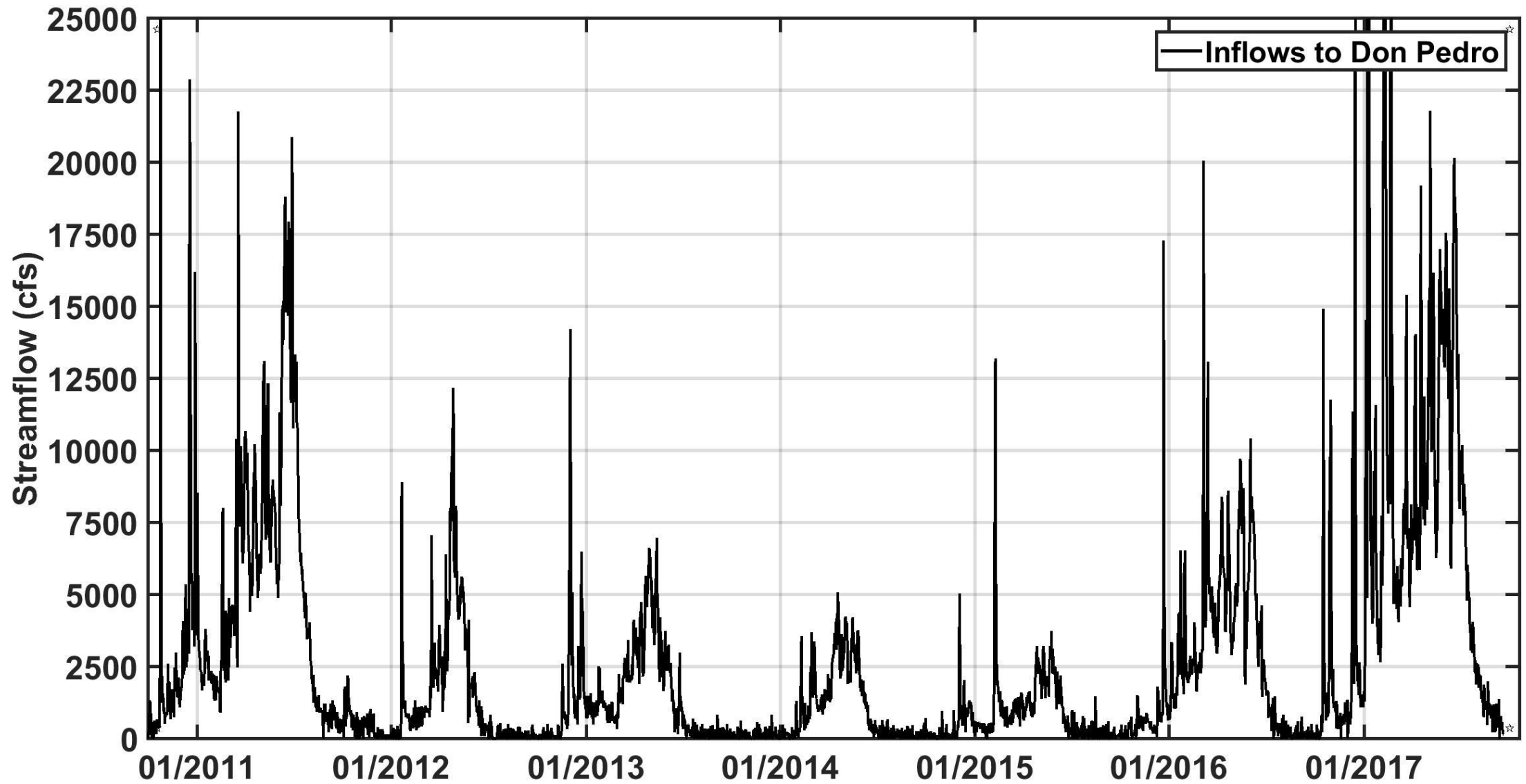
- The Raker Act allocated 2,350 cubic feet per second (cfs) of the flow of the Tuolumne River to the Modesto and Turlock Irrigation Districts and 4,000 cfs during the 60-day period from April 15 to June 13.
- Any flows above those volumes are San Francisco's entitlement for diversion, referred to as Water Available to the City from the Tuolumne River.
- This water is either diverted for San Francisco's use, stored in San Francisco's Tuolumne Reservoir storage, credited to Water Bank, or spilled to the Districts.

The Fourth Agreement Under the Raker Act

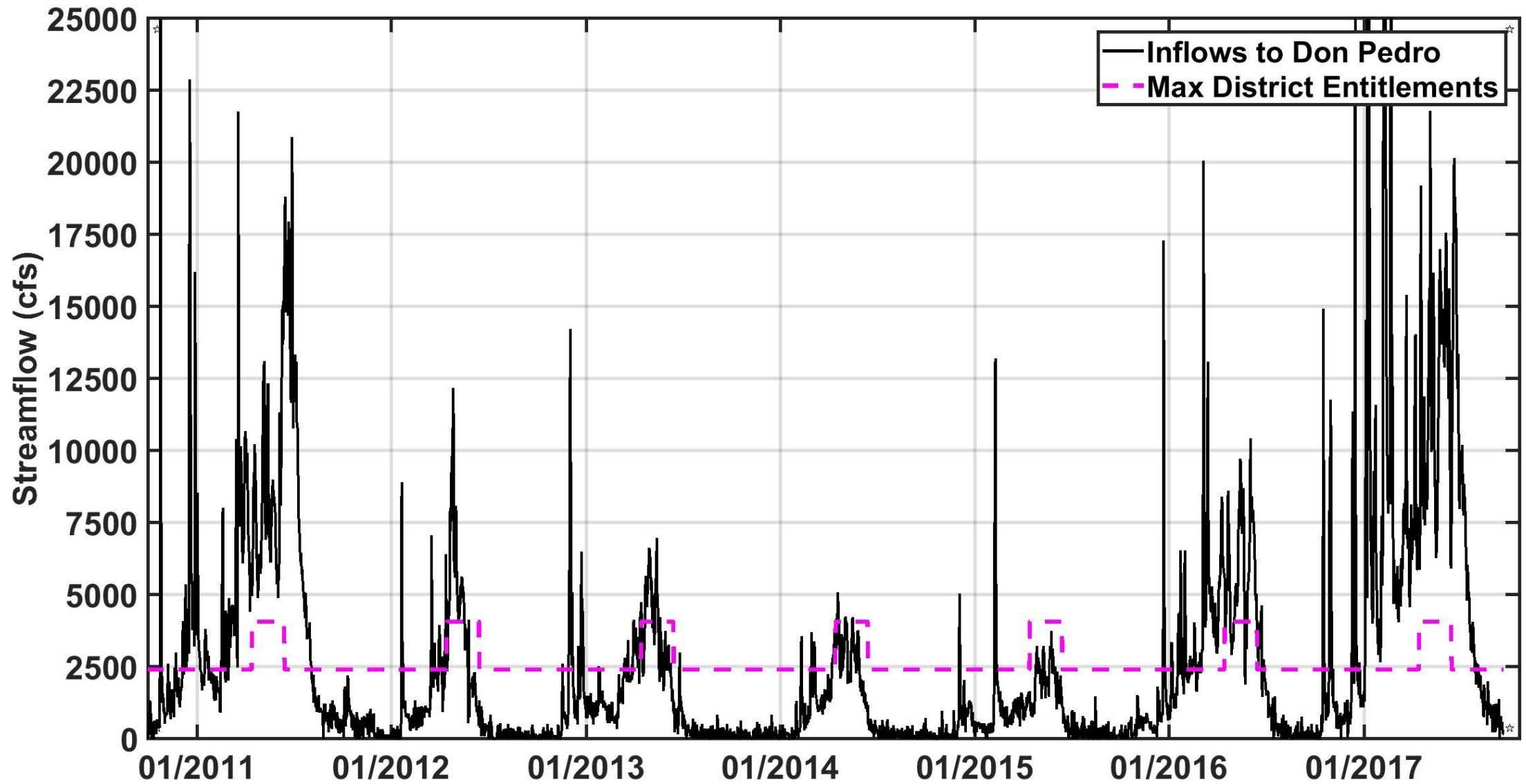


- It established the terms for our participation in the 2.03 million acre-feet New Don Pedro Project.
- Don Pedro is owned and operated by the Irrigation Districts.
- San Francisco paid 51.71% of the construction cost.
- It established the Water Bank at 570,000 acre-feet of storage.
- The agreement does not expire.
- Any water that cannot be captured in Water Bank “spills” to the Irrigation Districts.

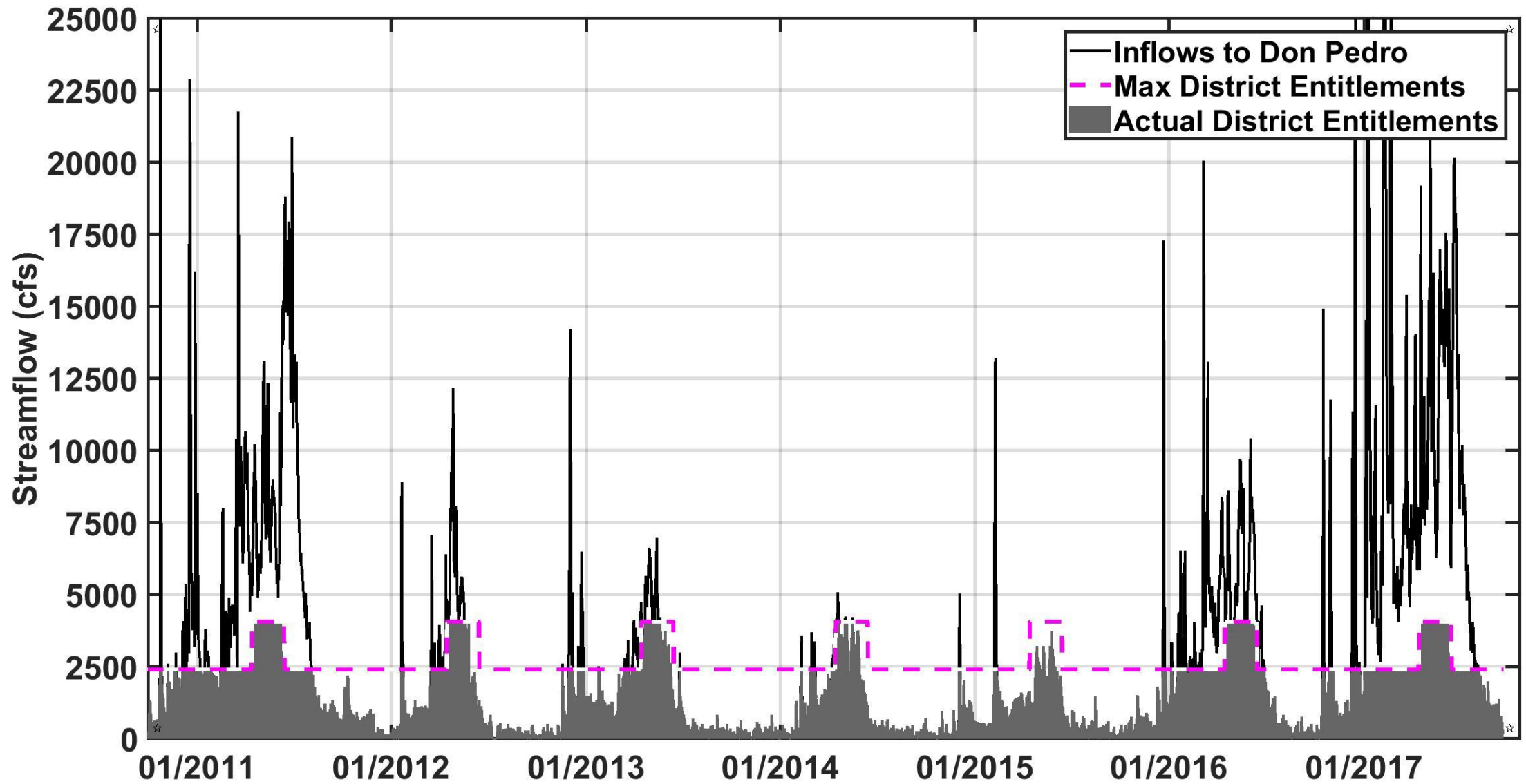
How the Water Bank Works



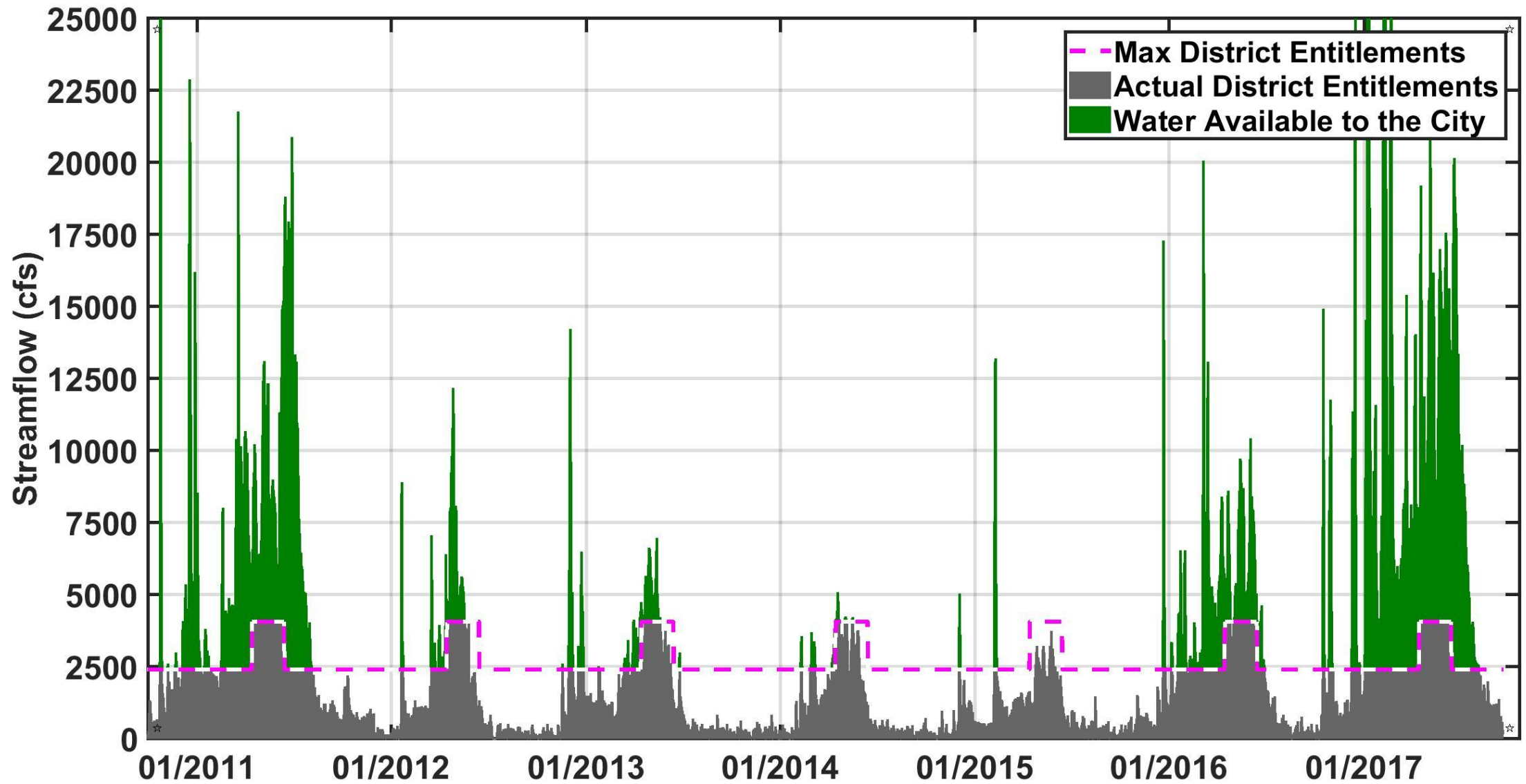
How the Water Bank Works



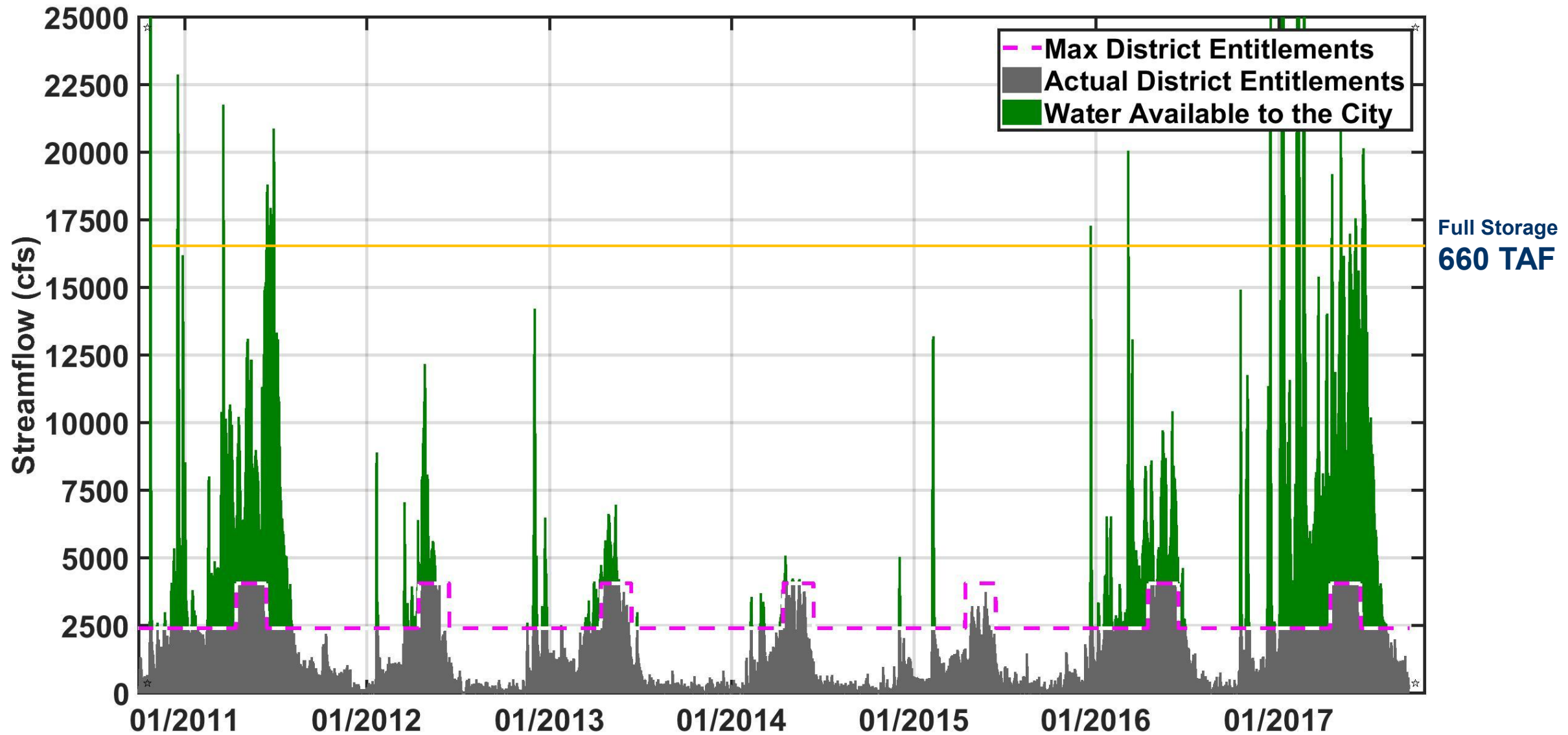
How the Water Bank Works



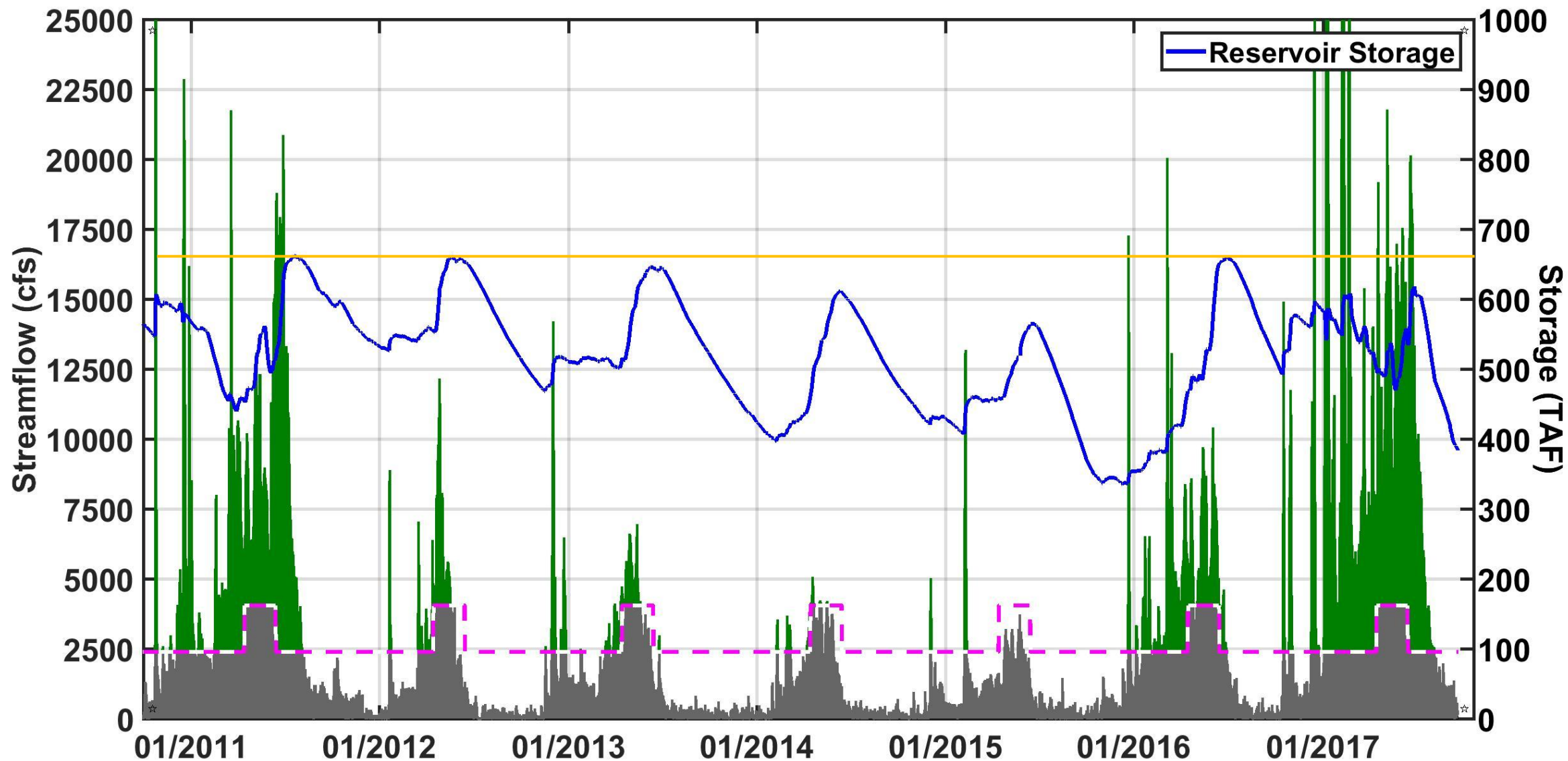
How the Water Bank Works



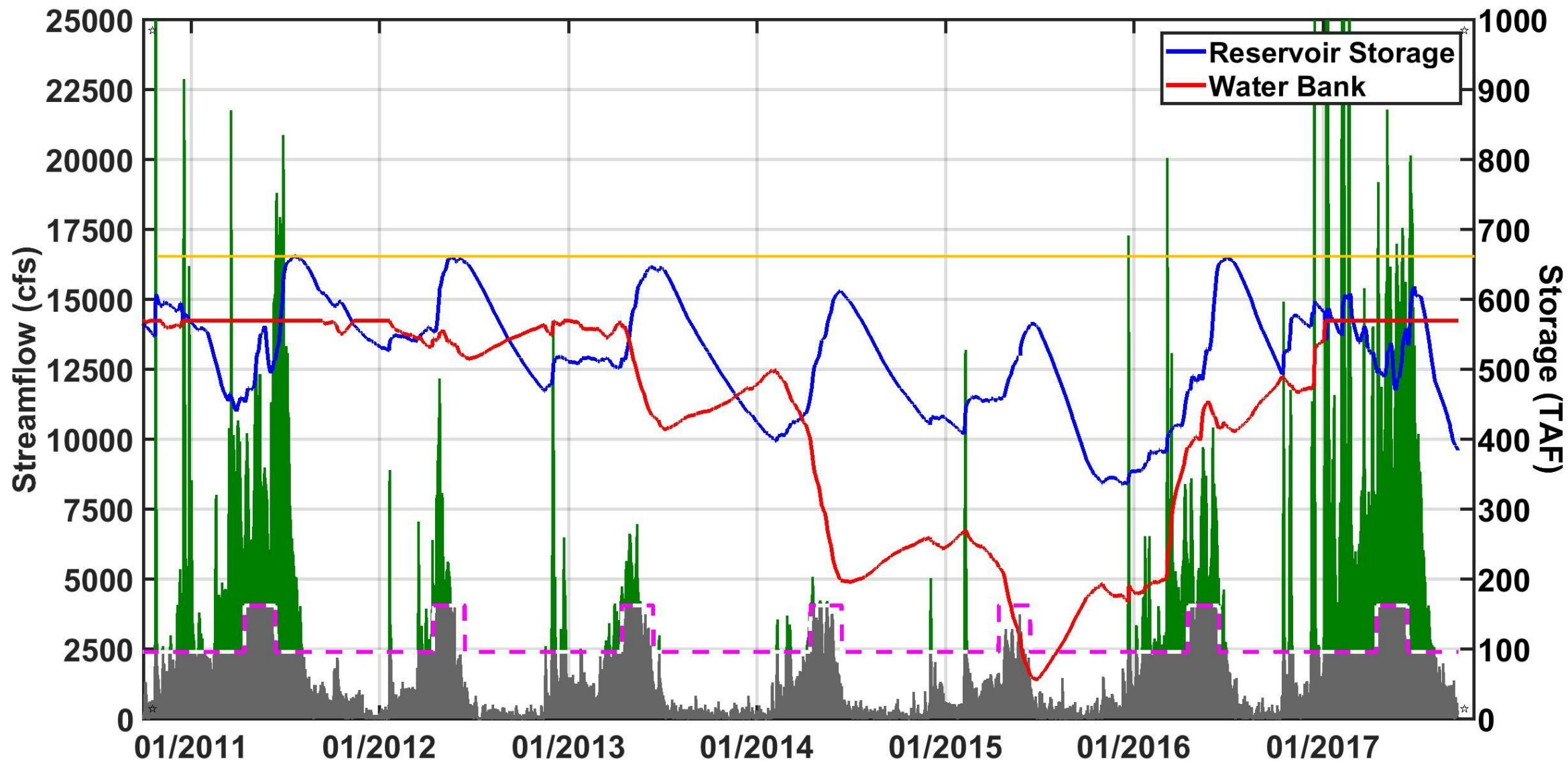
How the Water Bank Works



How the Water Bank Works



How the Water Bank Works

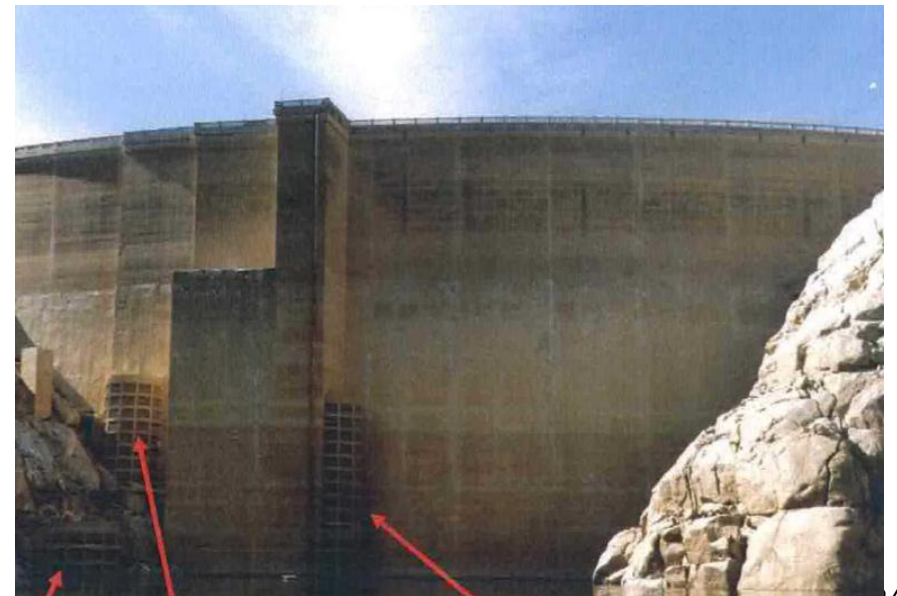


Our Regional Water System and Design Drought

- Because of our water rights and allocations on the Tuolumne, storage of wet year water is key.
- 1987-1992 is the worst drought on record for the SFPUC; but extreme two-year droughts could happen at virtually any time. Recently, we have experienced several severe two-year droughts: 1976-77, 1987-88, 2014-15, and 2020-21.
- In the midst of the 1987-92 drought, SFPUC developed the methodology of assuming two additional dry years at the end of a drought. Assuming wet years would not be prudent.
- Our system is unique among large agencies. We don't have another supply. Comparison with Valley Water, East Bay MUD and others is not meaningful.

Our Regional Water System and Design Drought

- As a planning tool, the Design Drought runs system storage to zero. Operationally, we cannot run out of water.
- As an operational tool, we would always end a water year with adequate supply for the next year. Shortening the Design Drought by one year would need to be mitigated by running system storage to a prudent reserve of 200,000 acre-feet.



A Stress Test for Planning

- The “Design Drought” does not predict a given precipitation or drought sequence. It is essentially a stress test of our ability to deliver water under extreme drought circumstances which can, in turn, inform long-term mitigations.
- It is similar to examining your personal finances for potential impacts, such as loss of employment, layoff or illness.
- Operationally, we must assume that any given year may be a drought, so that in a wet year, the assumption is that the next year is the beginning of a drought. In a dry year the assumption is that the next year is the continuation of a drought. It would not be prudent to believe that the next year will be wet.
- Recent experiences elsewhere are ominous:
 - Australia drought – 1996-2010
 - Colorado River millennial drought – 2000-????

Conclusions from Past Experience

- The enormous consequences of running out of water require prudent planning to minimize risk.
- A prudent utility must assume a worse drought than any ever experienced will occur.
- Our “design drought” reflects our experience and our nearly exclusive reliance on surface water diversions and carryover storage, and our water rights related to MID/TID and the Raker Act.
- Transfers, diversification of supply and other measures will assist in reducing the risk of draconian water rationing and shortages during a drought as severe as the “design drought”, but no one will just step in to help us in those circumstances.

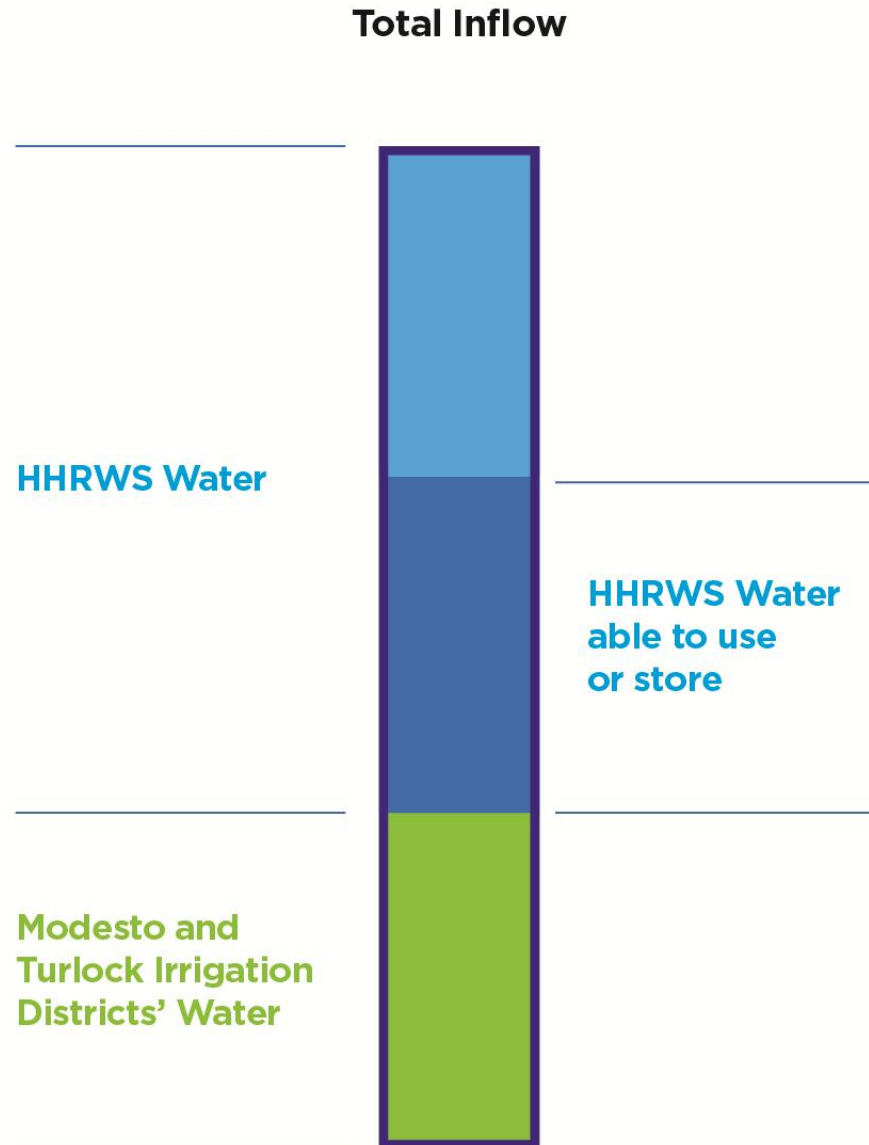
Discussion

In Wet Years

Water Bank: A Savings Account Based on Diversions

Modesto and Turlock Irrigation Districts have senior water rights on the Tuolumne River. The Raker Act – a 1913 act of Congress – ensures the Districts receive their water, while allowing operation of the Hetch Hetchy Regional Water System above the Districts' reservoirs.

Our Water Bank Agreement – a legal agreement based on diversions – allows us in wet years to 'prepay' water to the Districts, so in drier periods we can still take water into our system.



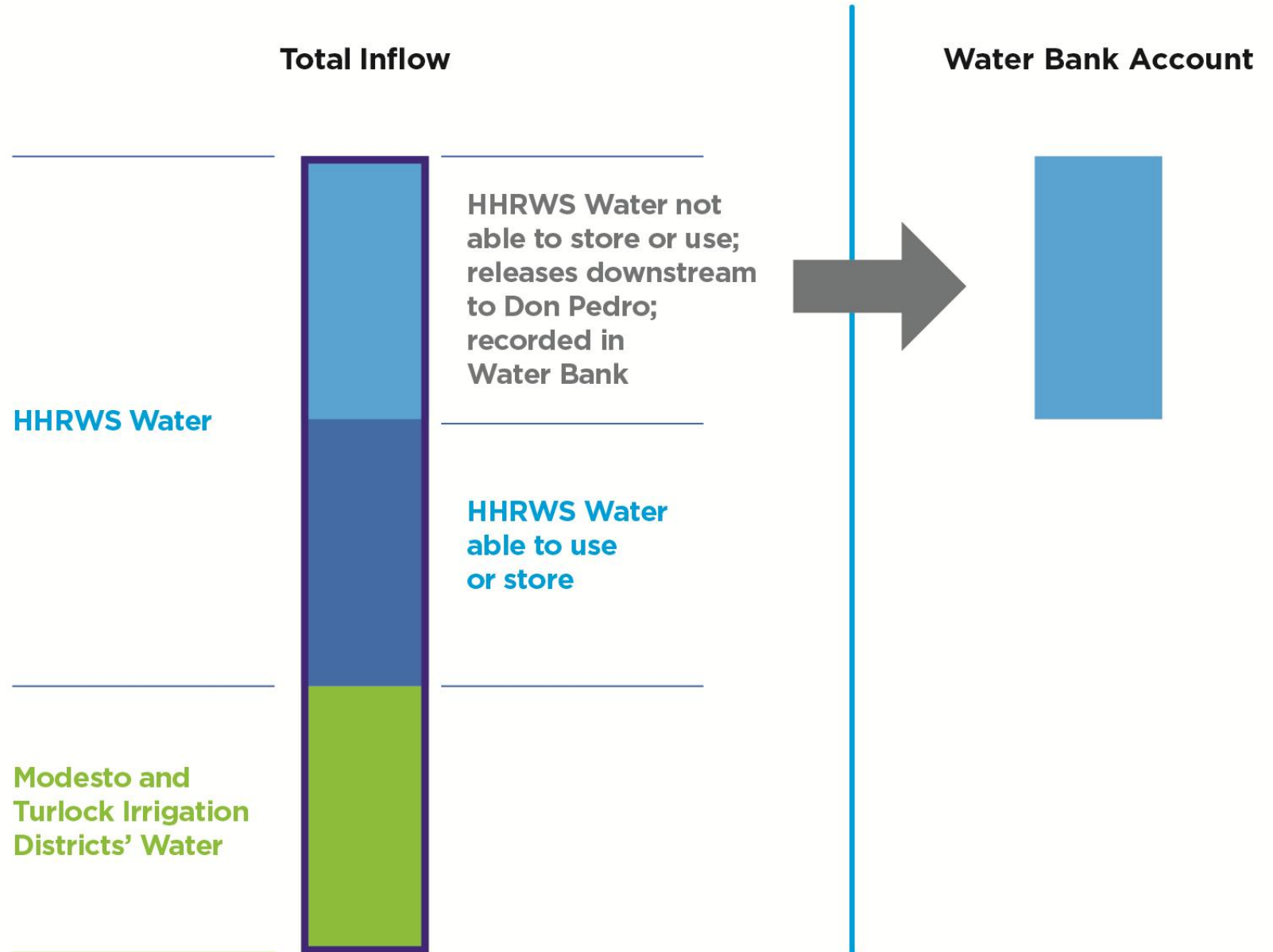
Water Bank Account

In Wet Years

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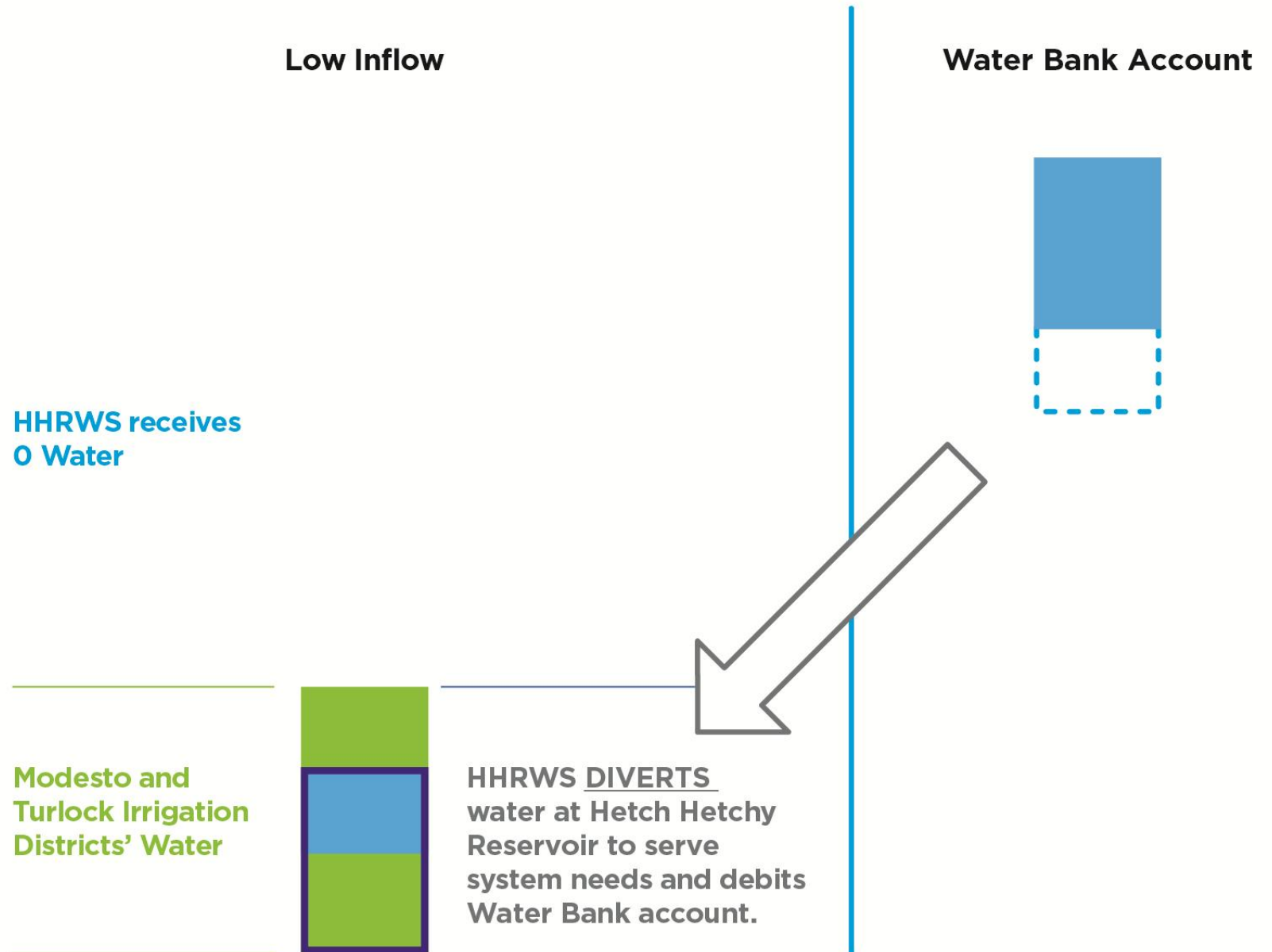


In Dry Years

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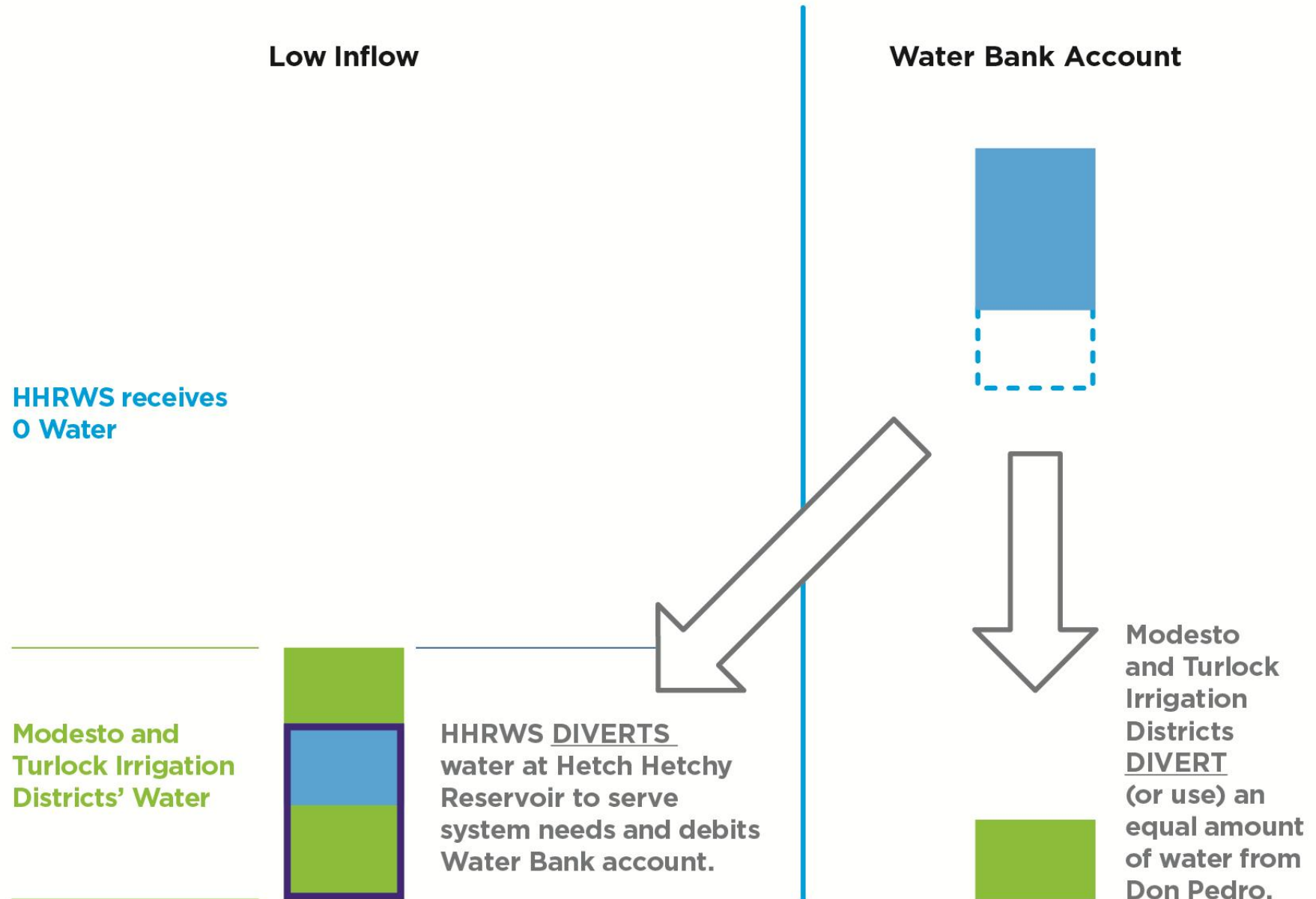


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Water Supply Conditions Update

July 9, 2026

Current Reservoir Storage

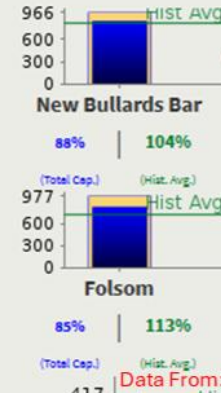
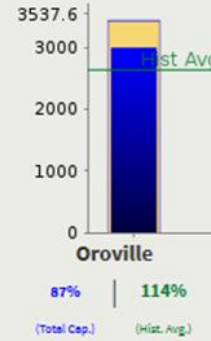
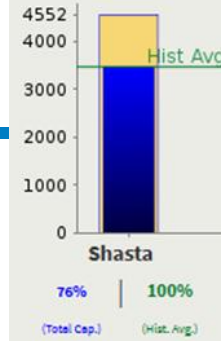
Storage as of: 6-Jul-2026

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	355,800	360,360	4,560	98.7%	99.2%
Cherry	261,600	273,345	11,745	95.7%	-
Eleanor	26,270	27,100	830	96.9%	-
Water Bank	570,000	570,000	0	100.0%	100.0%
Total Tuolumne Storage	1,213,670	1,230,805	17,135	98.6%	-
<u>Local System</u>					
Calaveras	57,120	96,670	39,550	59.1%	-
San Antonio	44,021	53,266	9,245	82.6%	-
Crystal Springs	44,696	68,953	24,257	64.8%	-
San Andreas	15,954	18,675	2,721	85.4%	-
Pilarcitos	1,943	3,125	1,182	62.2%	-
Total Local Storage	163,734	240,689	76,955	68.0%	-
Total System Storage	1,377,404	1,471,494	94,090	93.6%	90.5%
Total without water bank	807,404	901,494	94,090	89.6%	-

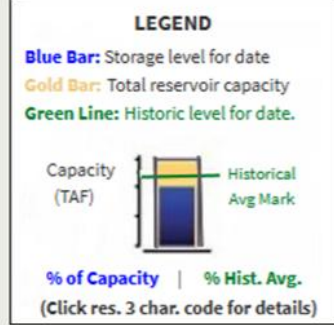
Other California Reservoirs

CURRENT CONDITIONS: MAJOR WATER SUPPLY RESERVOIRS: 05-JUL-2026

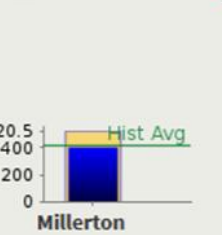
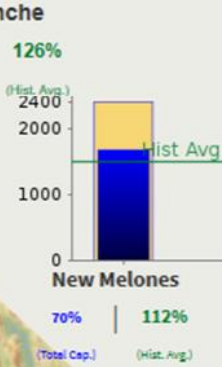
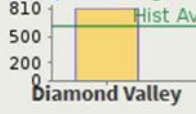
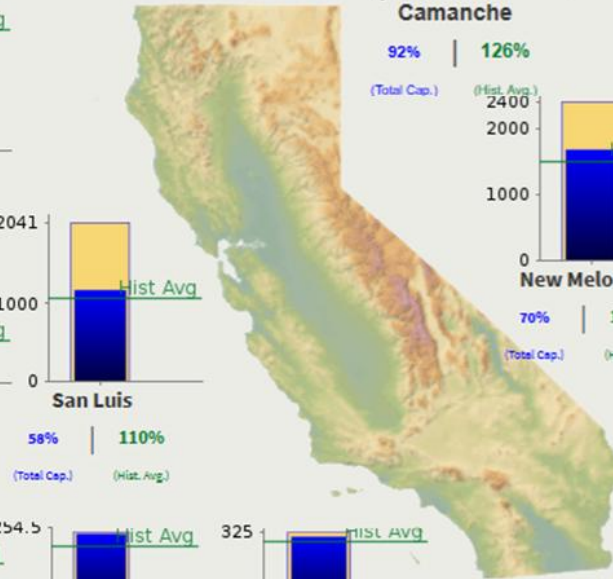
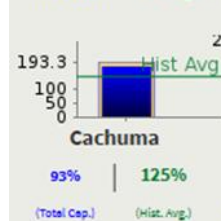
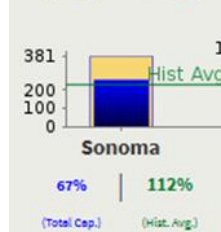
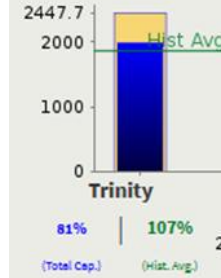
Midnight: 05-Jul-2026



Change Date: 05-Jul-2026



Data From: Jul 1



Click for printable version of current data.

Report Generated: 06-Jul-2026 9:26 AM

California Drought Monitor

Map released: Thurs. July 2, 2026

Data valid: June 30, 2026 at 8 a.m. EDT

Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

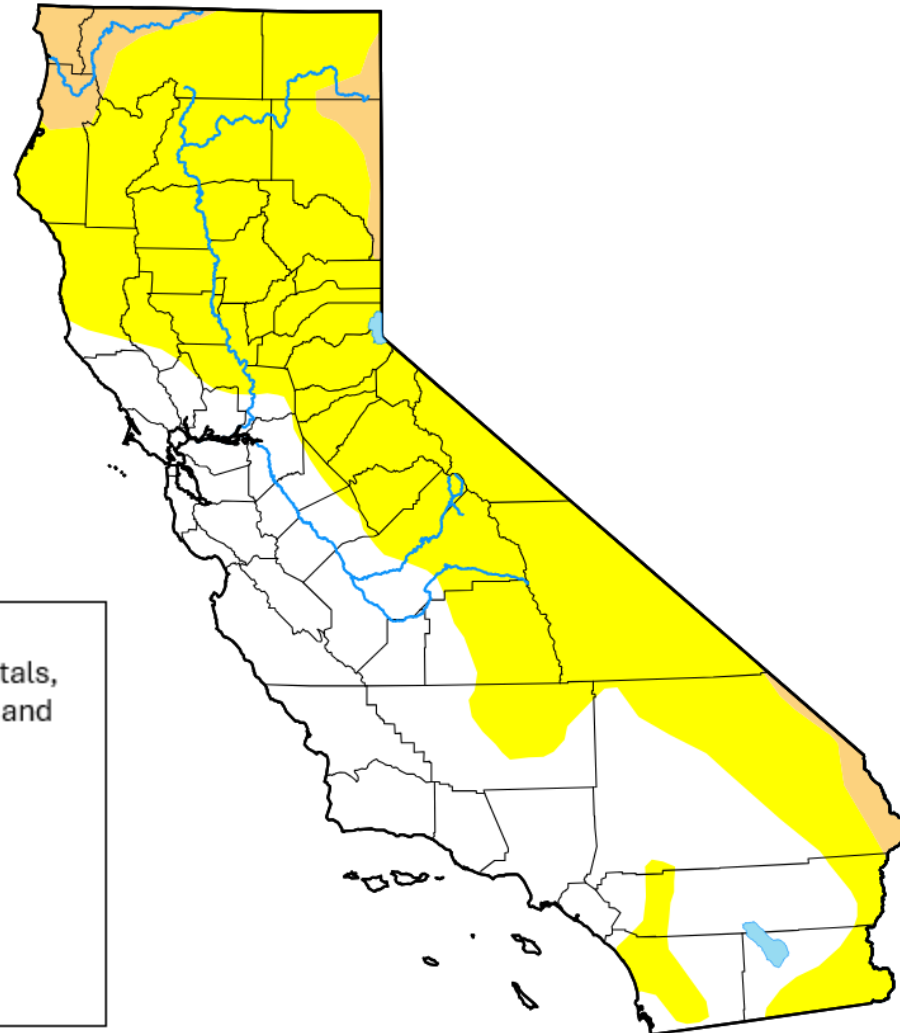
Authors

United States and Puerto Rico Author(s):

[Brad Rippey](#), U.S. Department of Agriculture

Pacific Islands and Virgin Islands Author(s):

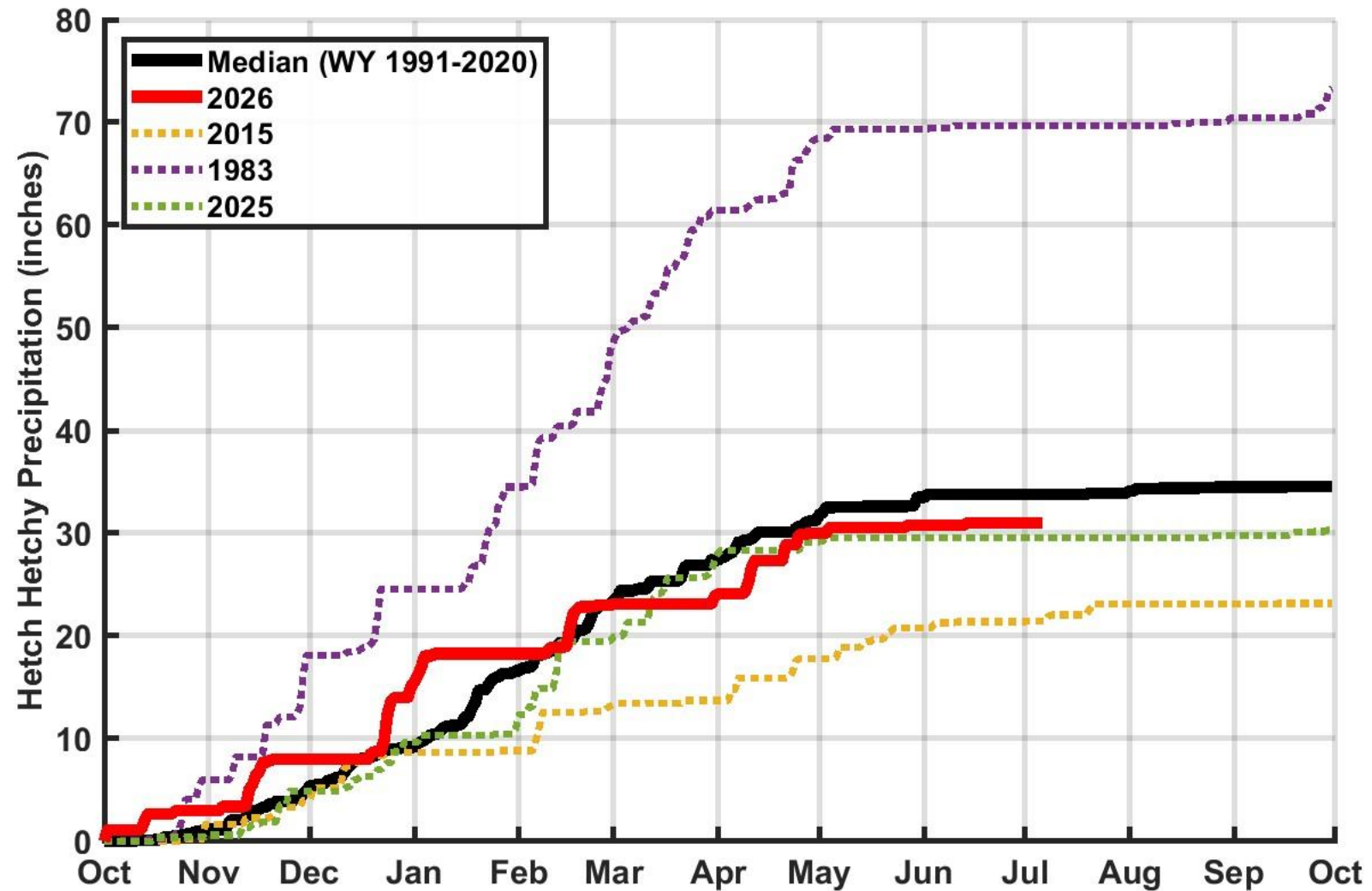
[Richard Tinker](#), NOAA/NWS/NCEP/CPC



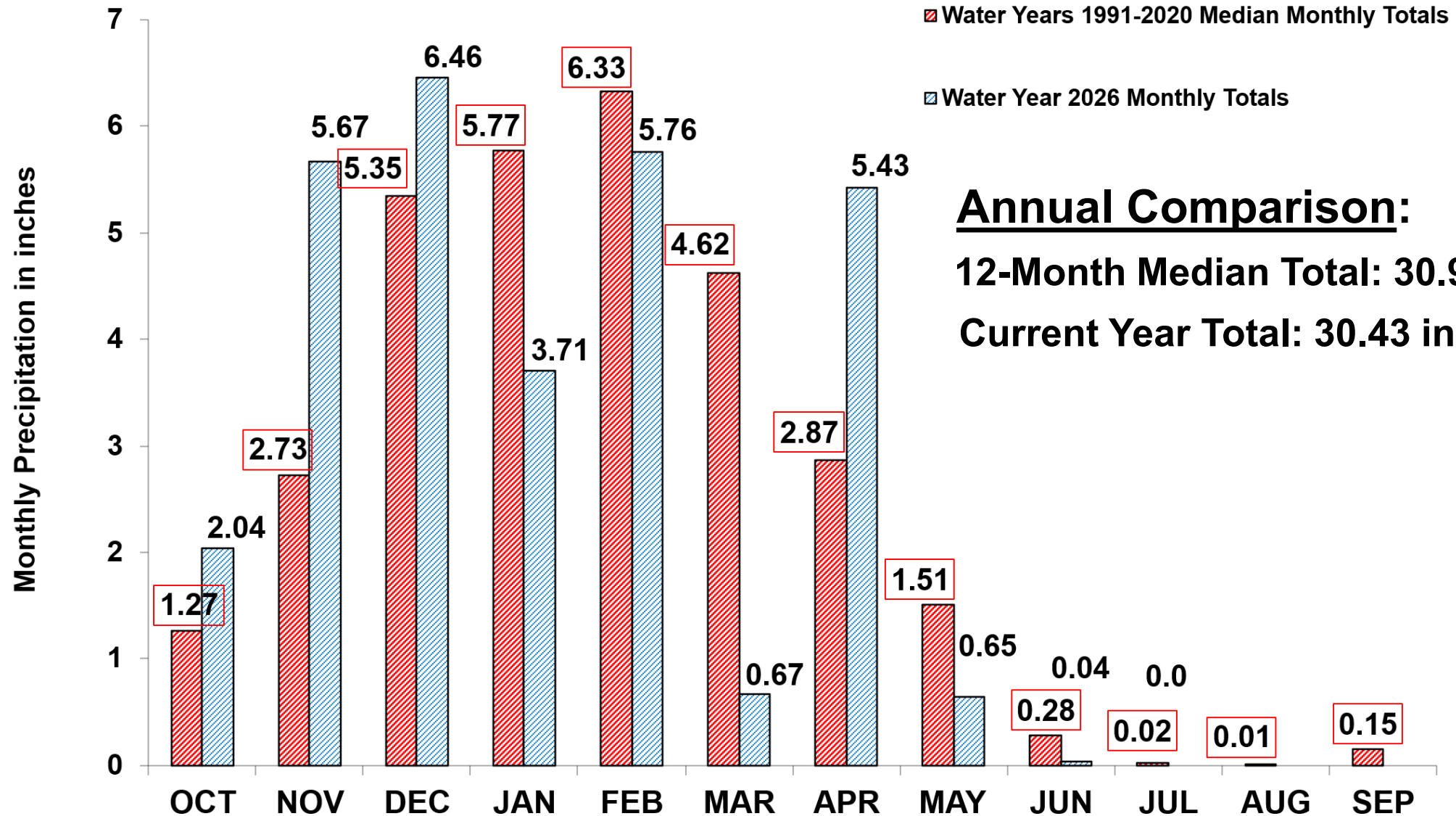
Color scale is based on the historical average of a combination of data including rainfall and snow totals, soil moisture levels, reservoir storage, streamflow and other data:

- >30% of historical average
- 20-30% of historical average
- 10-20% of historical average
- 5-10% of historical average
- 2-5% of historical average
- <2% of historical average

Hetch Hetchy Precipitation

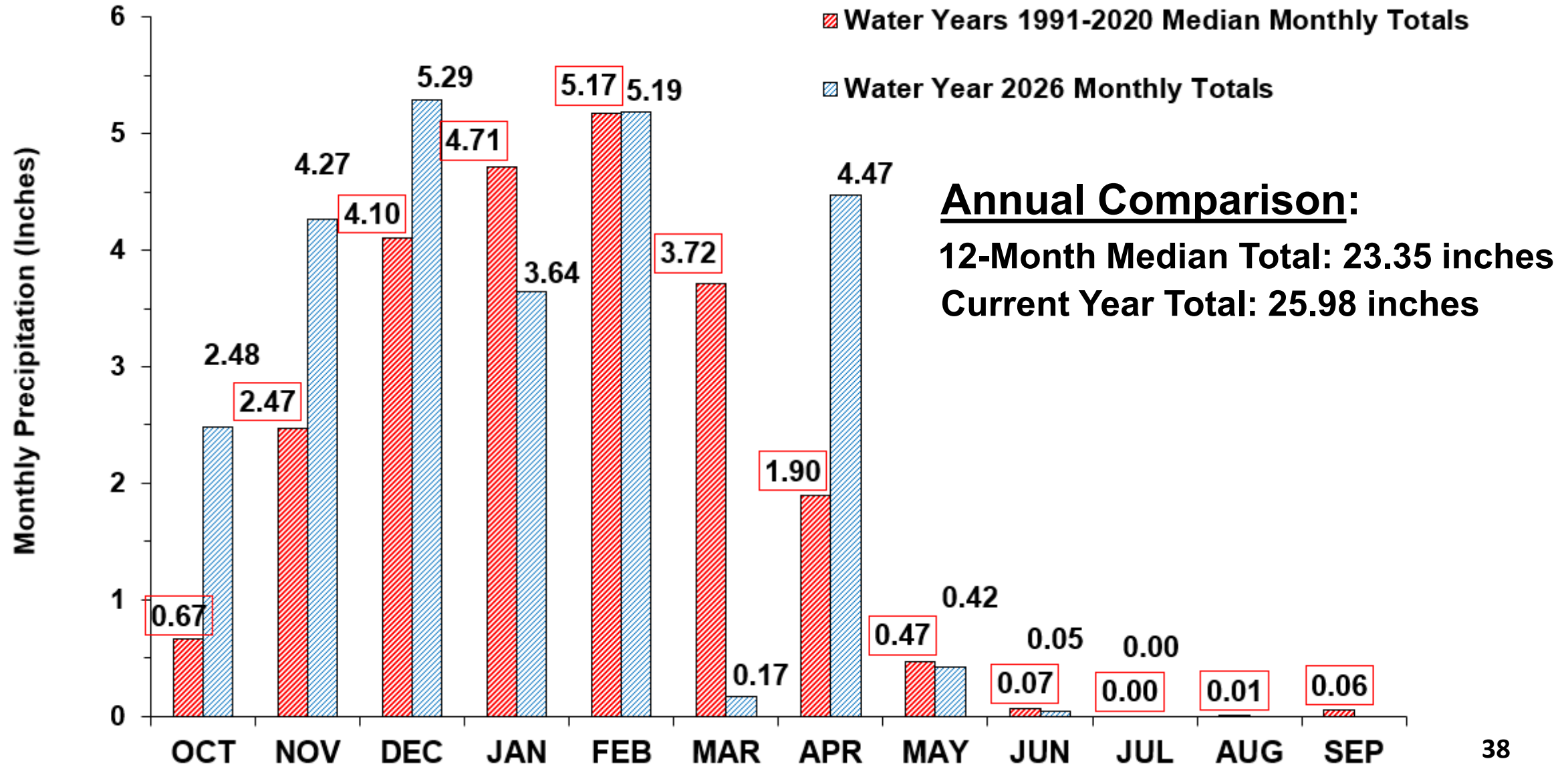


Upcountry 6-station Precipitation Index as of July 5, 2026

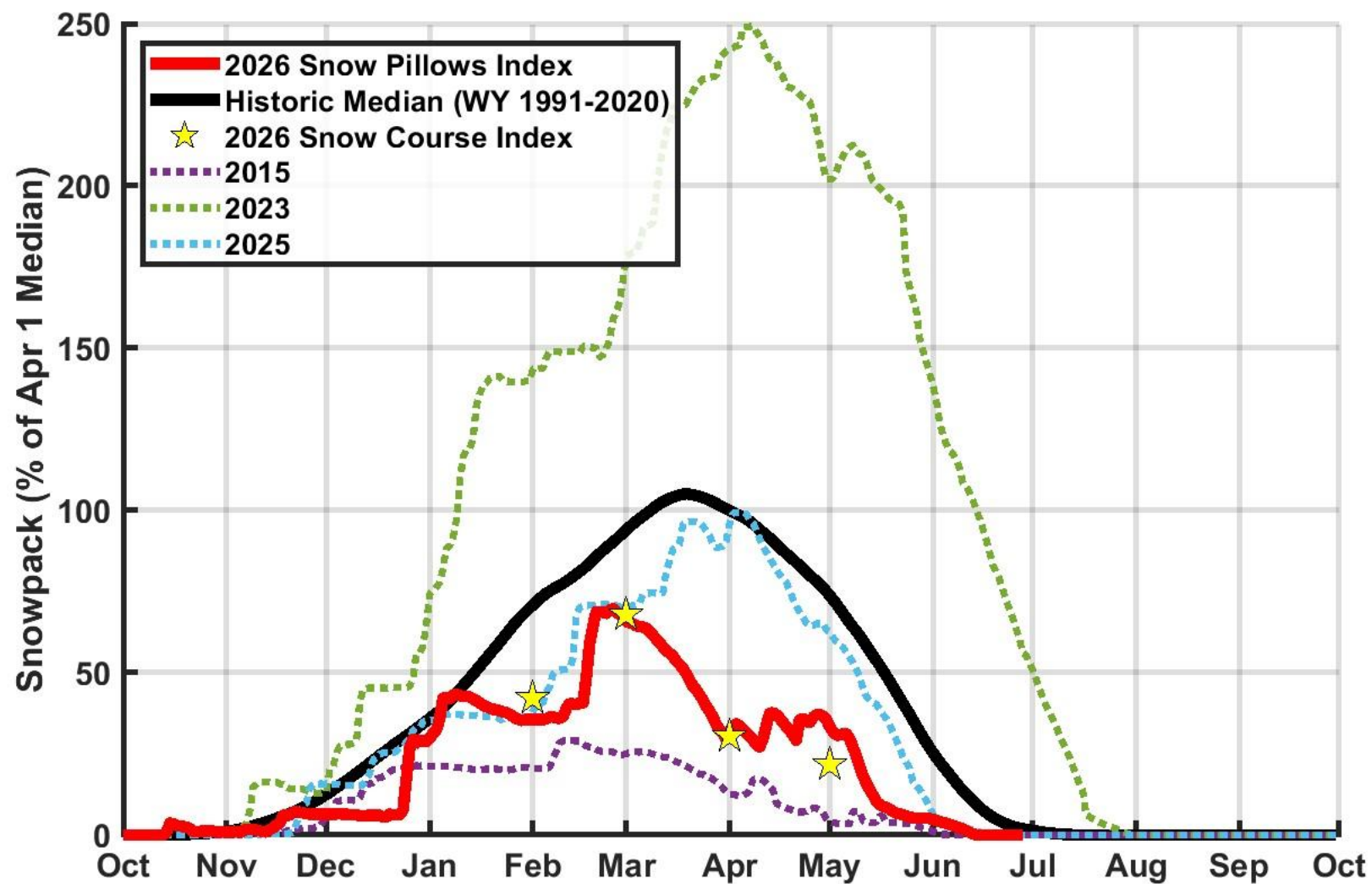


Annual Comparison:
12-Month Median Total: 30.92 inches
Current Year Total: 30.43 inches

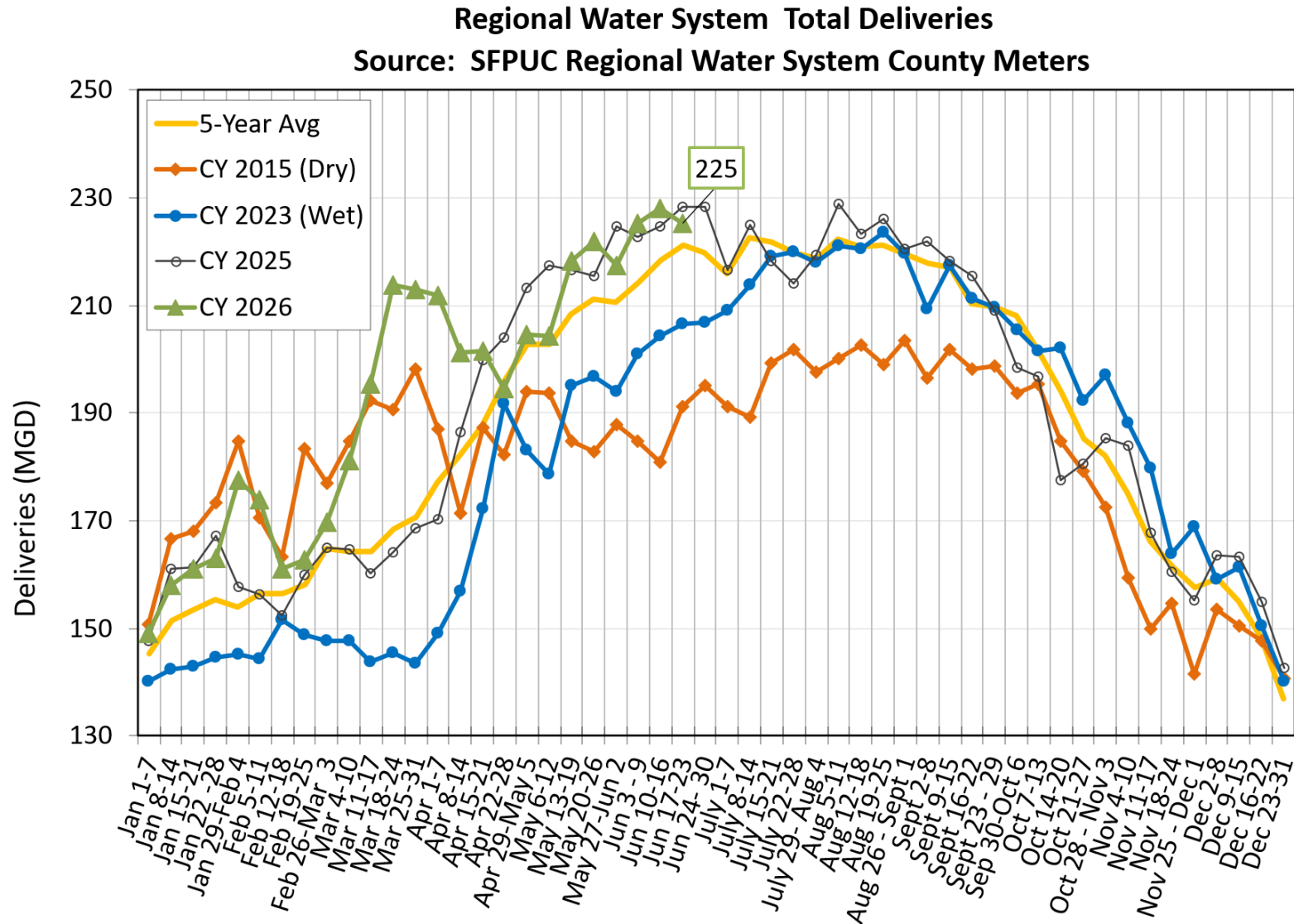
Bay Area 7-station Precipitation Index as of July 5, 2026



Upcountry Snowpack



Total Deliveries



Debrief of Emergency Response Incidents / Cybersecurity Matters



BAWSCA 2018

Emergency Response Incident Debrief

- BAWSCA is aware of two emergency response incidents that took place over the recent weeks
- Staff from the Agencies that had incidents will offer some thoughts on the events and follow-up
- Events of note:
 - City of Mountain View Water Quality Event
 - Cal Water - A potential system breach (cyber security)

Strategy 2050



BAWSCA 2018

Goals for Today's Presentation

- Share findings and recommendations related to emergency resilience frameworks for the BAWSCA region to inform Strategy 2050 decisions.
- Seek input from WMRs in advance of July 16th BAWSCA Board meeting:
 - What questions do you have about findings presented in the draft technical memorandum (TM3/TM4)?
 - Do you have suggestions for the memo and presentation to the BAWSCA Board?

Strategy 2050 Overview: Purpose and Objectives

Purpose — *To identify the water supply management needs and opportunities for the BAWSCA region and establish a framework to collectively support water reliability and resilience.*

Objectives align with BAWSCA's goal to ensure a reliable supply of high-quality water at a fair price

1 Provide a comprehensive picture of the region's supply and demand management needs and options



2 Establish a framework for collectively maintaining and improving regional water supply reliability and resilience.



3 Elevate awareness of and support the region's interests in new and emerging regulations that impact water supply and demand management.



4 Expand regional dialogue and collaboration to collectively address common needs.



5 Close the gap on funding needed for water supply resilience and reliability.



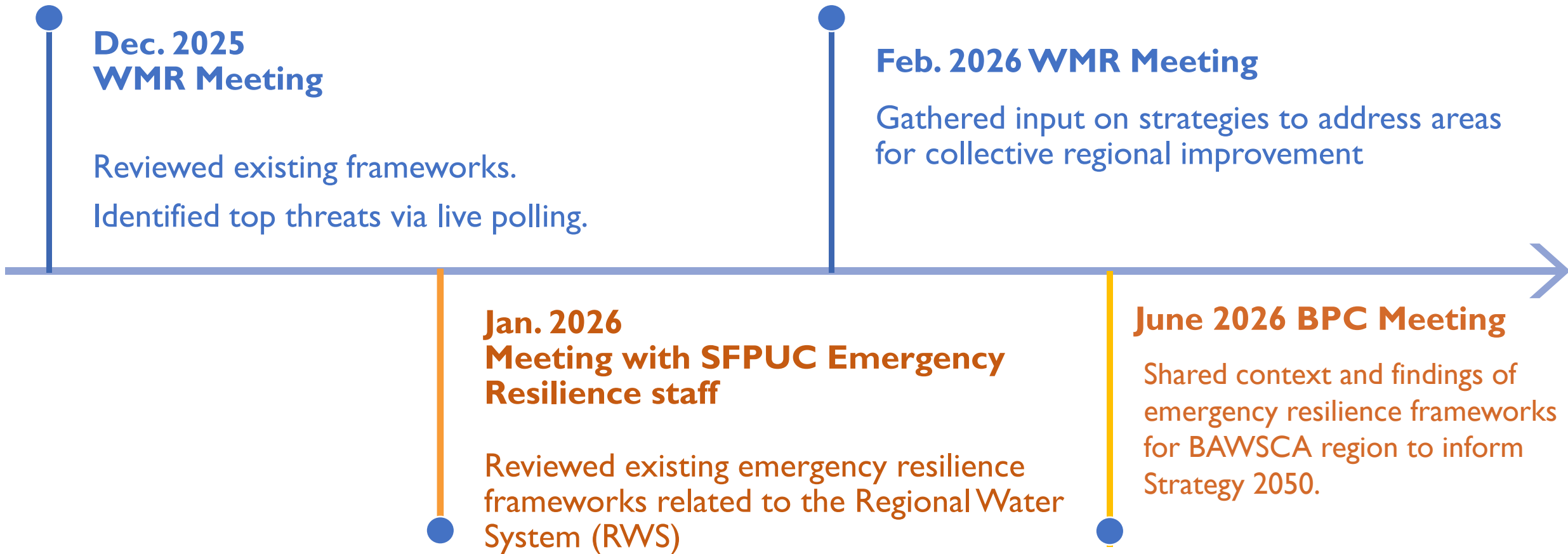
6 Support availability of affordable water supplies and demand management strategies to all customers.



Emergency Resilience Framework Overview

- **Strategic Value** – Evaluation of existing and potential frameworks to build regional resilience to natural and human-induced threats.
- **Key Outputs**
 - **Existing Frameworks Assessment** – An inventory of emergency resilience frameworks currently applicable to BAWSCA Agencies and best practices from several other regions.
 - **Improvement Opportunities** – Identified gaps and actionable opportunities to strengthen regional emergency resilience as part of Strategy 2050.
 - **Recommended Next Steps** – Clear, prioritized actions for BAWSCA to advance.

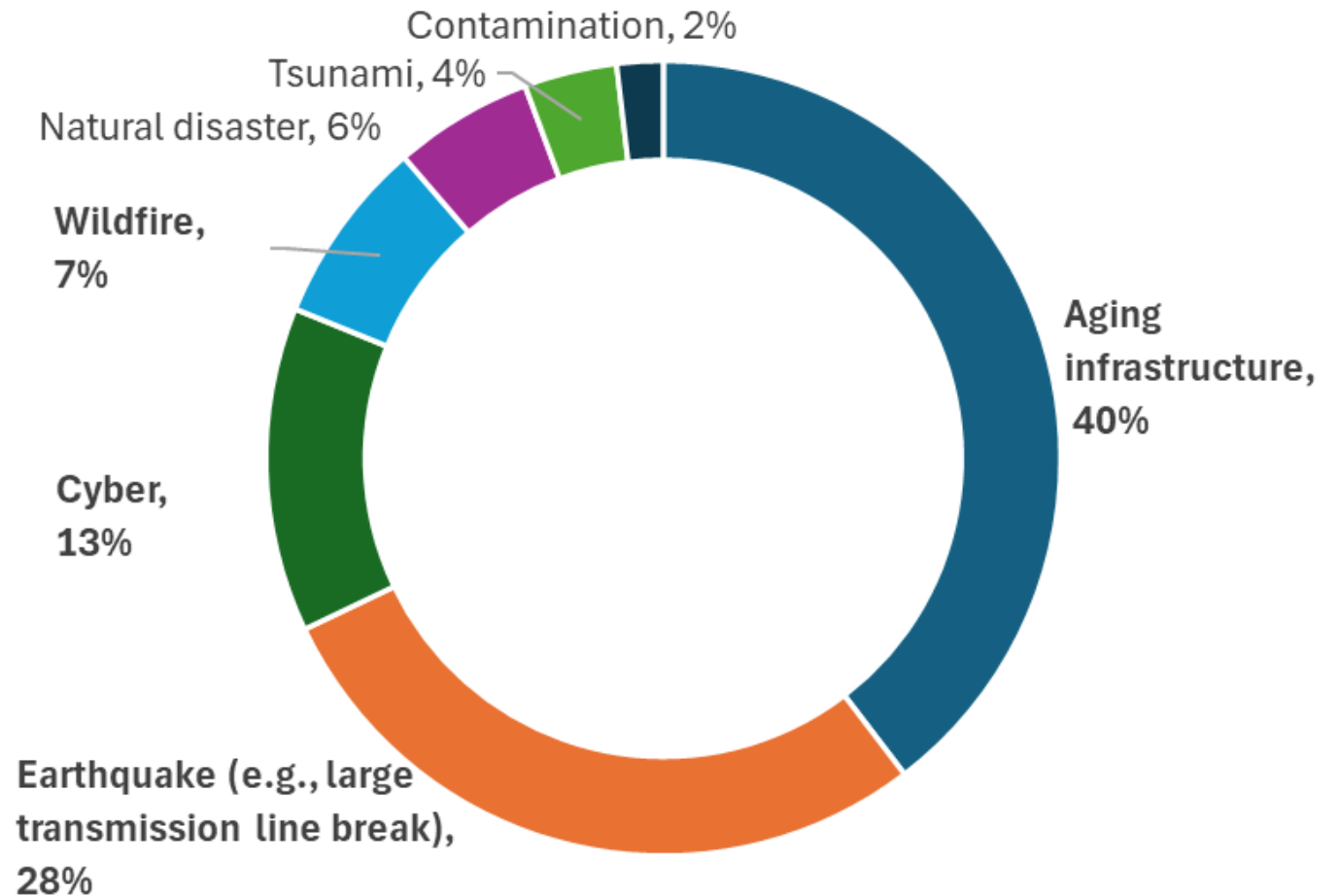
BAWSCA Agency Engagement Approach



Key Regional Threats

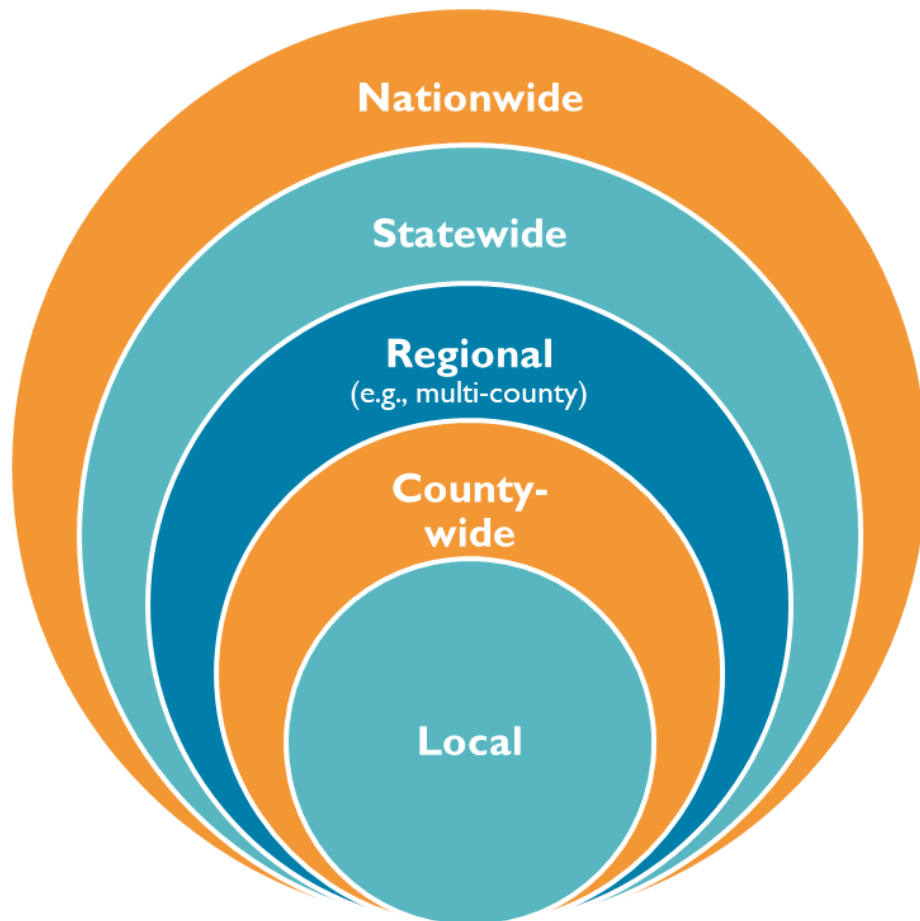
Top responses

- Infrastructure failure, due to condition (age) and/or earthquake
- Cyber
- Wildfire



Existing Framework Evaluation Approach

- Reviewed existing frameworks at various geographic scales



Scale	Key Frameworks Assessed
Local	America's Water Infrastructure Act (AWIA); Risk & Resilience Assessments (RRA) and Emergency Response Plans (ERP)
County-Wide	Hazard Mitigation Plans (HMP); County Departments of Emergency Management (DEM); Offices of Emergency Services (OES) in Alameda, Santa Clara, and San Mateo counties
Regional	SFPUC-led training and exercises; Cal Water exercises; Bay Area Urban Areas Security Initiative (BAUASI/BATEP); Distribution system emergency interties
State-Wide	CalOES (State Emergency Plan, EMMA mutual aid); CA Utilities Emergency Association (CUEA); CalWARN mutual aid network
Nationwide	National Incident Management System (NIMS)

Emergency Resilience Potential Opportunities of Interest to BAWSCA Agencies

1. Templates and resources

- Easy to implement templates to customize for before, during, and after emergencies, such as boil water notices, after action reports, and site condition assessments.

2. Training and exercises

- Sample desktop emergency exercises for local agencies.
- Regional training and exercises.

3. Communication plans and protocols

- Regional – between: (a) SFPUC and BAWSCA, and (b) inter-BAWSCA agencies (e.g., interties).
- Countywide – Coordinated County OES emergency response.

4. Peer learning and knowledge sharing

- Organize workshops with member agencies to discuss current emergency resilience topics and concerns, and to share experiences and lessons learned from events occurring at agencies across the region.

Recommended Potential Actions

Near-term (0-12 mos)

1. Develop & maintain regional emergency resilience **contact roster**.
2. Solicit **sharable templates** & compile into regional library.
3. Establish system to **track trainings & exercises** across region.
4. Broaden annual RWS exercises to include **wholesale customer scenarios**.
5. Launch peer learning **workshop series**.
6. Pursue **grant funding** applications for regional emergency resilience programs.

Recommended Potential Actions

Mid-term (1-3 years)

1. Scope and complete **intertie operations analysis**.
2. Develop post-emergency **water quality** confirmation testing **protocol**.
3. Host first **regional** **intertie tabletop exercise**.
4. Implement **cybersecurity resilience actions** across opportunity areas.
5. Establish formal BAWSCA **liaison role** with county OES.
6. Develop **equity-focused** emergency **communication** framework.
7. Develop **post-emergency recovery protocols**.

Recommended Potential Actions

Long-term (3-5 years)

1. Procure and manage a **regional emergency equipment pool** funded through grants or subscription model.
2. Establish **resilience performance metrics** (aligned with AWWA Water Resilience Portal indicators) and report baseline and annual progress.

Next Steps & WMR Input Requested

- Next Steps
 - Recommendations will be shared with BAWSCA Board at July 16th meeting.
- WMR Input Requested
 - What questions do you have about findings presented in the draft technical memorandum (TM3/TM4)?
 - Do you have suggestions for the memo and presentation to the BAWSCA Board?

Urban Water Management Plan



SFPUC

Status of UWMP Adoption

- Which agencies have not yet adopted their UWMP?
- Have there been notable discussions at the adoption hearings?
- Are there Board/Council questions/concerns BAWSCA should be aware of?

Drought Analysis Technical Memo

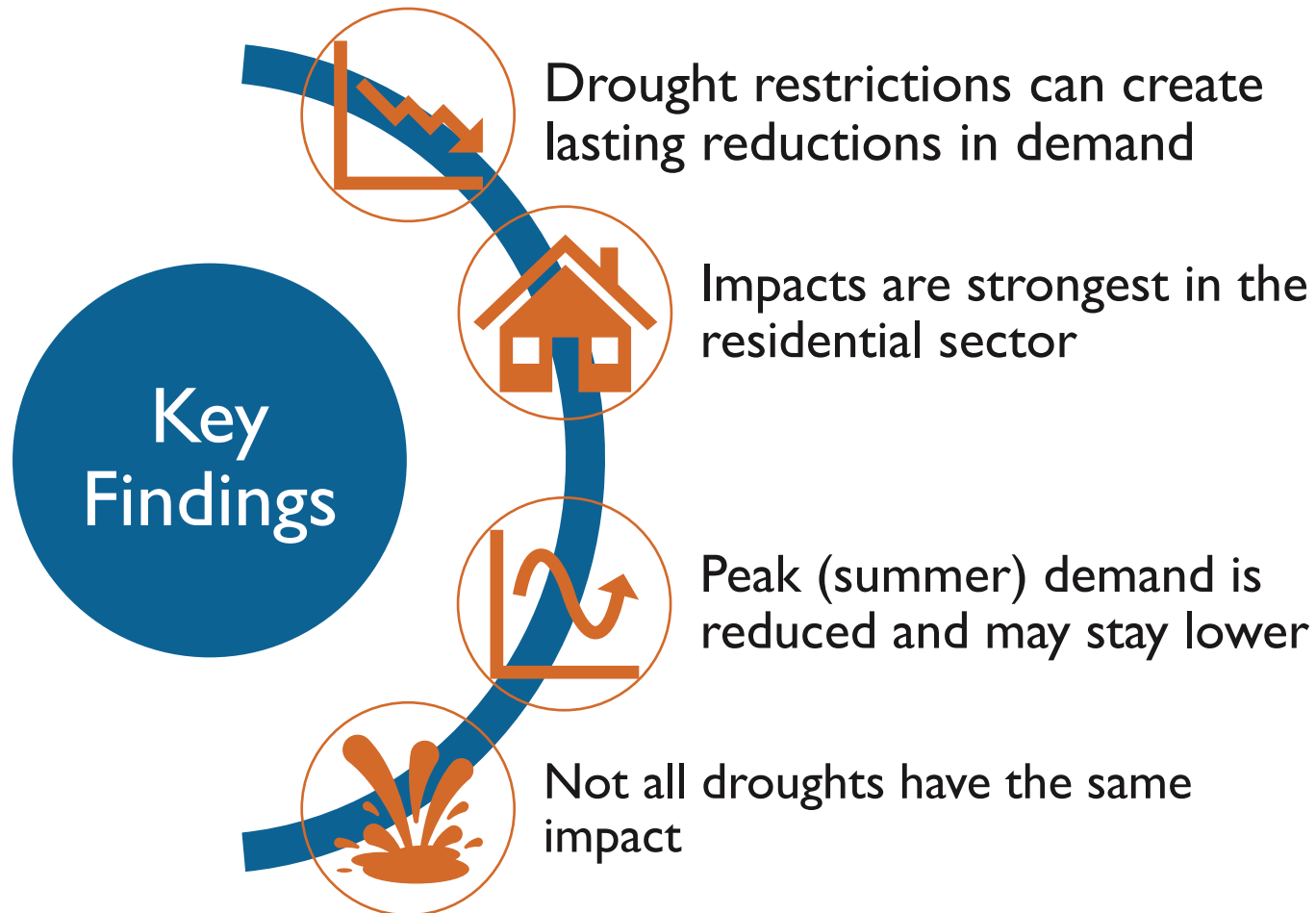


Smegal, 2017

Drought Analysis TM Posted on BAWSCA Website

- Hazen conducted a statistical analysis of historical droughts to understand:
 - How much demand drops during drought restrictions;
 - Whether demand reductions persist after drought restrictions are lifted; and
 - How seasonal demand patterns (especially summer peaks) are affected
- Drought Analysis TM link: https://bawasca.org/water/use/2025_Demand_Study

Key Findings of the Drought Analysis



Bay-Delta Plan and FERC Update



L. Ash, 2017

Bay-Delta Plan and FERC Process Update (1 of 2)

- **Bay-Delta Plan Phase 1 (Tuolumne River)**
 - The State Water Board continues the development of a 2nd draft of their draft Scientific Basis Report (SBR) for the Tuolumne River Healthy Rivers and Landscape Plan
 - The subsequent 2nd draft SBR will be provided for peer-review – the State Water Board is currently in the process of identifying possible parties to take part in that peer-review
 - Concurrent with the peer-review, existing environmental documents will be reviewed and revised by staff if needed
 - The next public hearing or workshop in the proceeding will possibly occur in 2026
- **Bay-Delta Plan Phase 2 (Sacramento System)**
 - Revised draft updates to the Phase 2 Bay-Delta Plan were released on Dec. 12, 2025
 - Hearings were held on Jan. 28-30, 2026, to take public comments. Written comments were received on Feb. 2, 2026 (BAWSCA did not comment; the SFPUC commented via the SJTA)

Bay-Delta Plan and FERC Process Update (2 of 2)

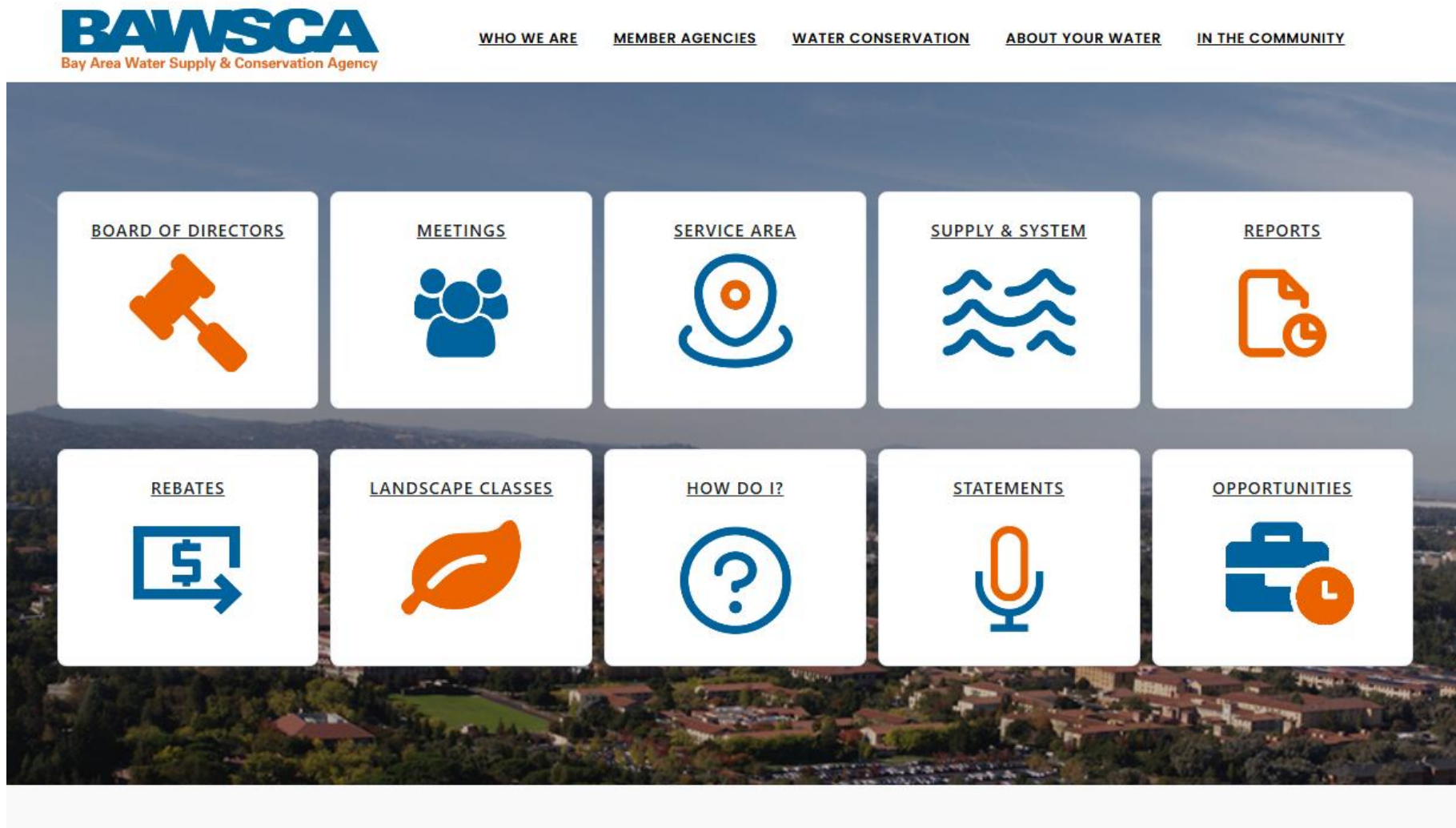
- **Litigation**

- On March 2, 2026, BAWSCA filed its opening brief in the appeal challenging the March 15, 2024, decision in the State Water Board Cases
- The State Board's combined respondent's brief must be served and filed by September 21, 2026
- BAWSCA's reply brief will be due October 12, 2026

- **FERC Update**

- FERC granted the Districts' request for a time extension to file a CWA 401 Certification for the Don Pedro Hydroelectric Project. They now have until December 31, 2026.

BAWSCA Website Update



Water Supply Agreement – Executed Document

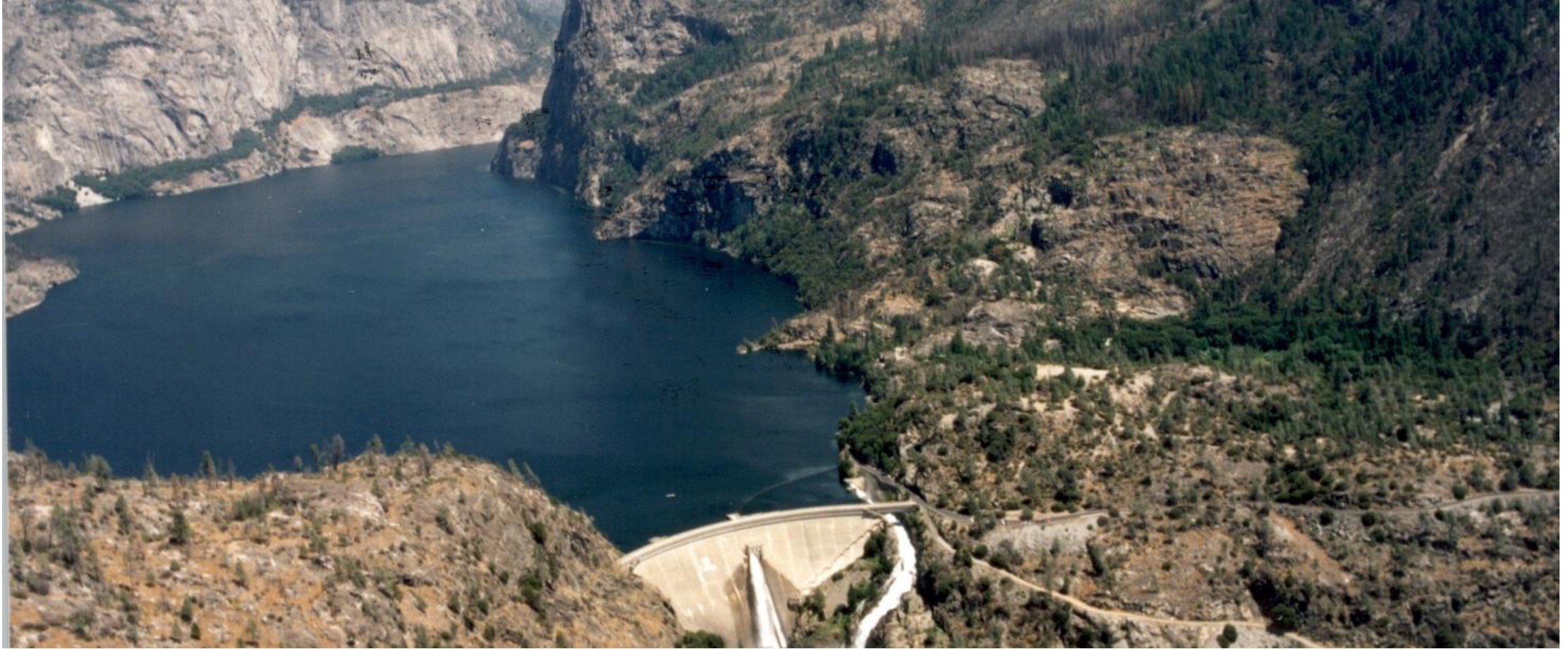


Ragsdale, 2023

2025 Amended and Restated Water Supply Agreement

- **2025 WSA Document Distribution**
 - On June 19, 2026, each BAWSCA WMR was provided with an electronic copy of the 2025 Amended and Restated Water Supply Agreement (2025 WSA) – via an email from BAWSCA's CEO/GM
 - BAWSCA requested that the WMRs share that electronic copy with your Agency's Attorneys / General Counsel (as well as other key staff members who should have a personal copy of the WSA)
 - Over the subsequent days, each Agency was provided with a hardcopy of the 2025 WSA, including your Agency's original signature page. You may use this to make binders for those who wish to also have a paper resource.
- Please reach out to BAWSCA if you have questions regarding the distribution

Open Discussion / Future Agenda Topics



SFPUC

Adjournment to Next Meeting

NEXT MEETING

Thursday, August 6, 2026

NOTE DIFFERENT LOCATION

San Mateo County Department of Emergency Management
501 Winslow Street, County Center
Redwood City, CA 94063