San Francisco Public Utilities Commission
Hydrological Conditions Report
March 2025

B. Barry, C. Graham, H. Forrester, N. Waelty

Prepared April 1, 2025

Snow surveyors measured snow depth and snow water equivalent (SWE) at Bond Pass (9,300 feet, left) and Sachse Springs (7,900 feet, right) in the Upper Cherry Creek watershed during late March. April 1st manual snow surveys indicated SWE in the Tuolumne River watershed was 72% of April 1 normal.

System Storage

Current Tuolumne System and Local Bay Area storage conditions are summarized in Table 1.

Table 1. Current System Storage as of April 1, 2025

	Current Storage		Maximum Storage		Available Capacity		Percentage of Maximum Storage
	acre-feet	millions of gallons	acre-feet	millions of gallons	acre-feet	millions of gallons	
Tuolumne System							
Hetch Hetchy Reservoir[1]	269,609		340,830		71,221		79%
Cherry Reservoir[2]	244,884		268,811		23,927		91%
Lake Eleanor[3]	23,727		21,495		0		100%
Water Bank	570,000		570,000		0		100%
Tuolumne Storage	1,108,220		1,201,136		95,148		92%
Local Bay Area Storage							
Calaveras Reservoir	80,961	26,381	96,670	31,500	15,709	5,119	84%
San Antonio Reservoir	44,981	14,657	52,506	17,109	7,525	2,452	86%
Crystal Springs Reservoir	43,382	14,136	68,743	22,400	25,361	8,264	63%
San Andreas Reservoir	15,753	5,133	18,898	6,158	3,146	1,025	83%
Pilarcitos Reservoir	1,906	621	3,118	1,016	1,212	395	61%
Total Local Storage	186,982	60,928	239,936	78,183	52,954	17,255	78%
Total System	1,295,202		1,441,072		148,102		90%

[1] Maximum Hetch Hetchy Reservoir storage with drum gates deactivated.
[2] Maximum Cherry Reservoir storage with flashboards removed. Boards were removed September 12.
[3] Maximum Lake Eleanor storage with flashboards removed. Boards were removed October 4.

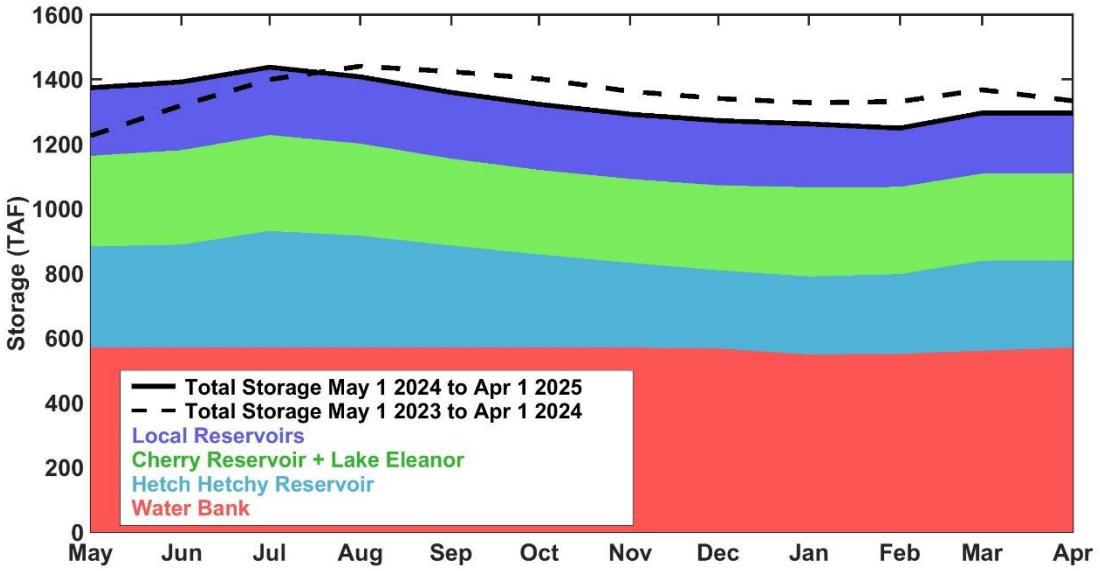

Figure 1: Local and Upcountry Reservoir storage. Color bands show contributions to total system storage. Solid black line shows total system storage for the past 12 months. Dashed black line shows total system storage the previous 12 months.

Hetch Hetchy System Precipitation Index

Current Month: The March 2025 six-station precipitation index was 8.15 inches, which is 177% of the 1991-2020 March median.

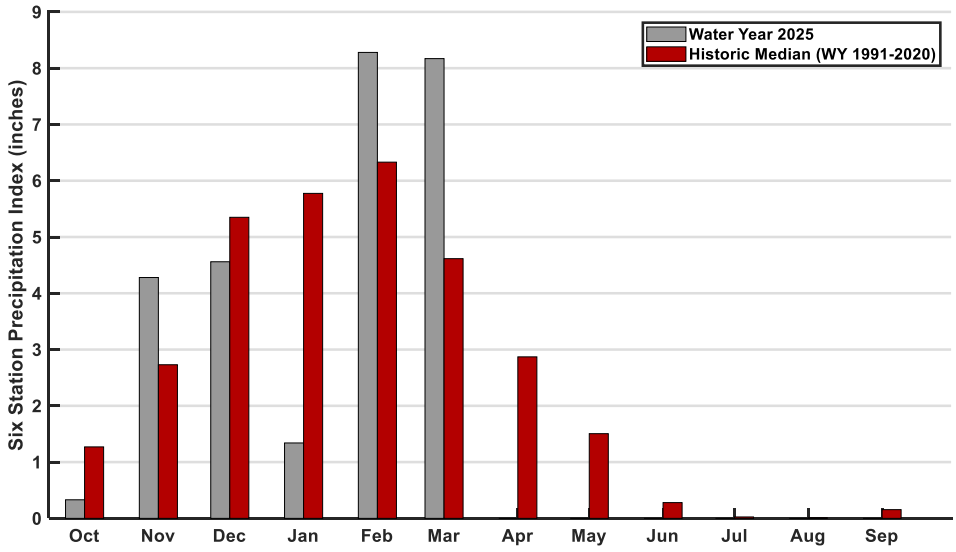

Figure 2: Monthly distribution of the six-station precipitation index relative to the monthly precipitation medians as of April 1. The precipitation index is computed as the average of six Sierra precipitation stations and is an indicator of the overall basin wetness.

Cumulative Precipitation to Date: The cumulative six-station precipitation index for Water Year (WY) 2025 is 26.91 inches, which is 103% of the median to-date. The Hetch Hetchy Weather Station received 7.91 inches of precipitation in March resulting in a total of 27.39 inches for WY 2025, or 100% of WY to-date median. The cumulative WY 2025 Hetch Hetchy Weather Station precipitation is shown in Figure 3 in red.

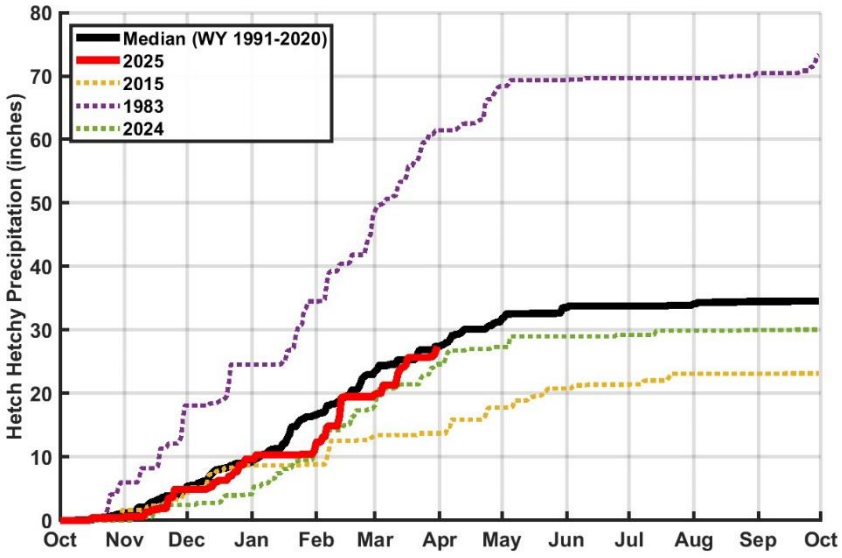

Figure 3: Water Year 2025 cumulative precipitation measured at Hetch Hetchy Weather Station as of April 1. Median cumulative precipitation measured at Hetch Hetchy Weather Station and example wet and dry years are included with Water Year 2025 for comparison purposes.

Tuolumne Basin Unimpaired Inflow

Unimpaired inflow to SFPUC reservoirs and the Tuolumne River at La Grange for March 2025 and Water Year 2025 is summarized below in Table 2.

Table 2. Calculated reservoir inflows and Water Available to City

* All flows are in acre-feet	March 2025				October 1, 2024 through March 31, 2025			
	Observed Flow	Median[1]	Mean[1]	Percent of Mean	Observed Flow	Median[1]	Mean[1]	Percent of Mean
Inflow to Hetch Hetchy Reservoir	48,655	43,608	51,029	95%	107,235	122,770	145,672	74%
Inflow to Cherry Reservoir and Lake Eleanor	53,336	52,608	54,863	97%	139,590	157,675	172,787	81%
Tuolumne River at La Grange	209,677	209,444	231,643	91%	486,095	538,755	684,849	71%
Water Available to City	72,180	75,668	98,048	74%	142,734	152,587	285,970	50%

[1]Hydrologic Record: 1991-2020

Hetch Hetchy System Operations

Water deliveries via the San Joaquin Pipeline (SJPL) decreased to 0 MGD on December 17 for the December 2024 - March 2025 Mountain Tunnel and Hetch Hetchy Aqueduct maintenance planned outage. Deliveries remained at 0 MGD through March 17. A rate change to 150 MGD occurred on March 18.

Hetch Hetchy Reservoir power draft and stream releases totaled 57,055 acre-feet during the month of March. Required minimum instream release during March 1 – 12 was 60 cfs (Type A). During March 13 – 31 it was 124 cfs (Type A plus 64 cfs due to Canyon Tunnel flow being greater than 920 cfs). Required releases increase to 139 cfs (Type A plus 64 cfs) in April.

Cherry Reservoir power draft and stream releases totaled 39,382 acre-feet during the month of March. Required minimum instream release is 5 cfs October through June.

Lake Eleanor stream releases totaled 14,983 acre-feet and Cherry-Eleanor pumping transfer totaled 7,379 acre-feet during the month of March. Required minimum instream release from March 1 through April 14 is 10 cfs; from April 15 through September 15, it is 20 cfs.

Regional System Treatment Plant Production

The Harry Tracy Water Treatment Plant production rate for the month was 46 MGD. The Sunol Valley Water Treatment Plant production rate for the month was 68 MGD.

Regional System Water Delivery

The average March delivery rate was 163 MGD which is a 3.8% increase compared to the February delivery rate of 157 MGD.

Local Precipitation

The rainfall summary for March 2025 and Water Year 2025 is presented in Table 3.

Table 3
Precipitation Totals at Three Local Area Reservoirs

Weather Station Location	March 2025		October 1, 2024 through March 31, 2025	
	Total (inches)	Percent of Mean for the Month	Total (inches)	Percent of Mean for the Year-To-Date
Pilarcitos Reservoir	4.56	95%	33.54	113%
Lower Crystal Springs Reservoir	2.93	92%	20.87	105%
Calaveras Reservoir	3.77	120%	17.15	107%

*Mean Period = WY 1991-2020

Snowpack, Water Supply and Planned Water Supply Management

Following dry conditions in the second half of February, a series of relatively cold storms during the first half of March produced significant precipitation, boosting the snowpack at middle and high elevations. A strong warming trend in the second half of the month generated well above normal temperatures and mid-elevation snowmelt. After another series of cold storms, cumulative WY precipitation and snowpack ended the month near normal (Figure 2, 3, and 5). These hydrologic conditions generated near-normal runoff for the month. Cumulative Water Available to the City (WAC) for March was 72,180 AF; for WY2025 WAC was 142,734 AF (Table 2, Figure 4).

Hetch Hetchy Reservoir is drafting via minimum instream releases and discretionary power generation. The 2024-2025 Mountain Tunnel and Hetch Hetchy Aqueduct maintenance outage began on December 17, precluding SJPL deliveries. SJPL deliveries resumed on March 18. Discretionary valve releases from Hetch Hetchy Reservoir to the Tuolumne River are planned to occur during Spring months, as inflows are forecasted to exceed the volume needed to fill the reservoir and supply maximum available Kirkwood Powerhouse draft. SFPUC staff are working with Yosemite National Park staff to plan these releases in an environmentally beneficial manner as part of the Upper Tuolumne River Ecosystem Program (UTREP).

Cherry Reservoir is expected to continue drafting via minimum instream releases and discretionary power generation through the end of Spring runoff. Lake Eleanor is full and spilling with Cherry-Eleanor Pumps running at capacity. The Cherry-Eleanor Pumps are expected to remain in service until the end of Spring runoff. Spill from Lake Eleanor is expected to occur intermittently over the next several months.

In all future weather scenarios, forecasted inflows are sufficient to fill Cherry Reservoir, Lake Eleanor, Hetch Hetchy Reservoir, and Water Bank (Figure 6), with additional water available for power generation and planned environmental releases.

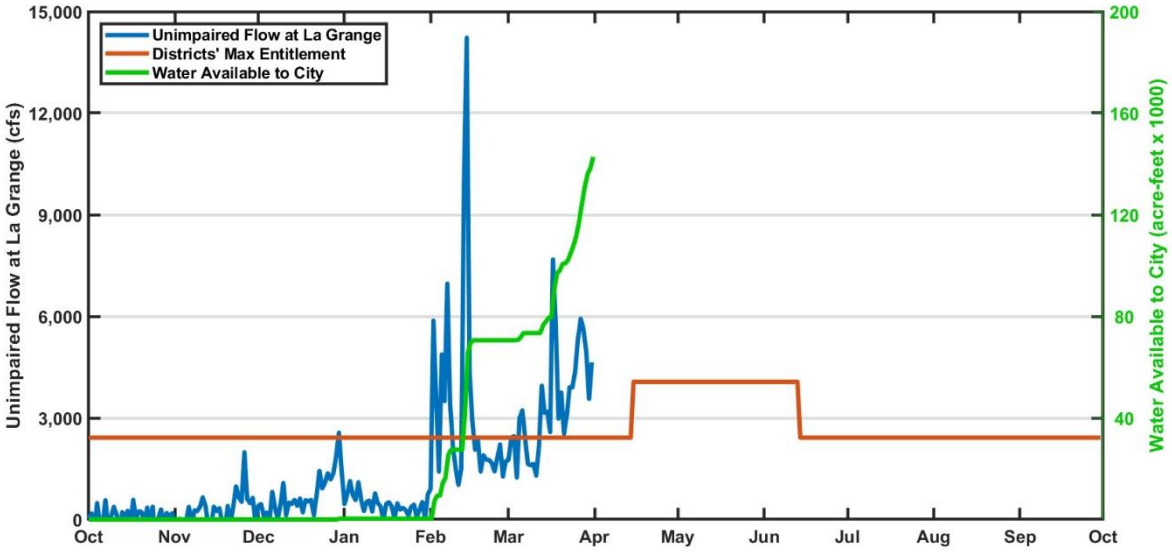

Figure 4: Calculated unimpaired flow at La Grange and the allocation of flows between the Districts and the City.

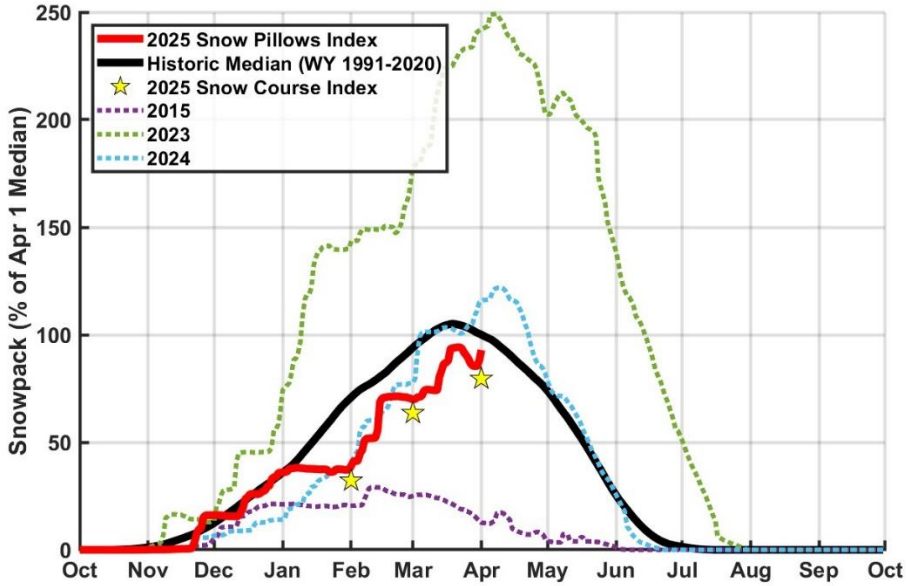

Figure 5: Current water year 10-Station Snow Pillows Index as of April 1 (red line), based on real-time snow water equivalent measurements in the Tuolumne Basin. Star indicates the average manual snow course measurements in the Tuolumne Watershed. Historic median, wet and dry years, and previous water year are included for comparison purposes.

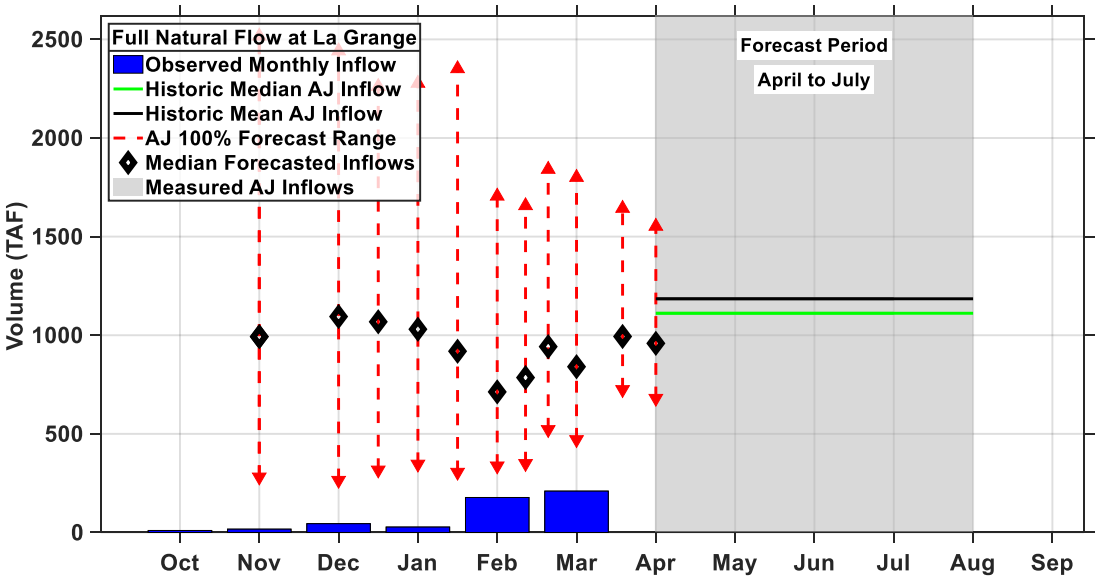

Figure 6: Water Supply Forecast Model of runoff (April to July) on the Tuolumne River at La Grange. This model is driven by precipitation from October to February, and by snow survey data from February through June. The forecast range decreases as time passes due to reduced potential future precipitation.

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Prepared May 2, 2025

Snow surveyors measured variable snowpack conditions during recent snow surveys in the Tuolumne River Watershed. Near normal snowpack conditions were observed above 8,000 feet (upper row), while below normal conditions were observed in the 8,000 – 6,000 ft elevation band (bottom row). May 1st manual snow surveys indicated SWE in the Tuolumne River watershed was 55% of normal May 1 conditions.

System Storage

Current Tuolumne System and Local Bay Area storage conditions are summarized in Table 1.

Table 1. Current System Storage as of May 1, 2025

	Current Storage		Maximum Storage		Available Capacity		Percentage of Maximum Storage
	acre-feet	millions of gallons	acre-feet	millions of gallons	acre-feet	millions of gallons	
Tuolumne System							
Hetch Hetchy Reservoir[1]	295,520		360,360		64,840		82%
Cherry Reservoir[2]	255,978		273,345		17,367		94%
Lake Eleanor[3]	22,983		27,100		4,117		85%
Water Bank	570,000		570,000		0		100%
Tuolumne Storage	1,144,481		1,230,805		86,324		93%
Local Bay Area Storage							
Calaveras Reservoir	80,052	26,085	96,670	31,500	16,618	5,415	83%
San Antonio Reservoir	45,211	14,732	52,506	17,109	7,295	2,377	86%
Crystal Springs Reservoir	45,297	14,760	68,743	22,400	23,446	7,640	66%
San Andreas Reservoir	15,707	5,118	18,898	6,158	3,192	1,040	83%
Pilarcitos Reservoir	1,940	632	3,118	1,016	1,178	384	62%
Total Local Storage	188,207	61,327	239,936	78,183	51,729	16,856	78%
Total System	1,332,688		1,470,741		138,054		91%

[1] Maximum Hetch Hetchy Reservoir storage with drum gates activated.
[2] Maximum Cherry Reservoir storage with flashboards installed. Boards were installed April 16.
[3] Maximum Lake Eleanor storage with flashboards installed.

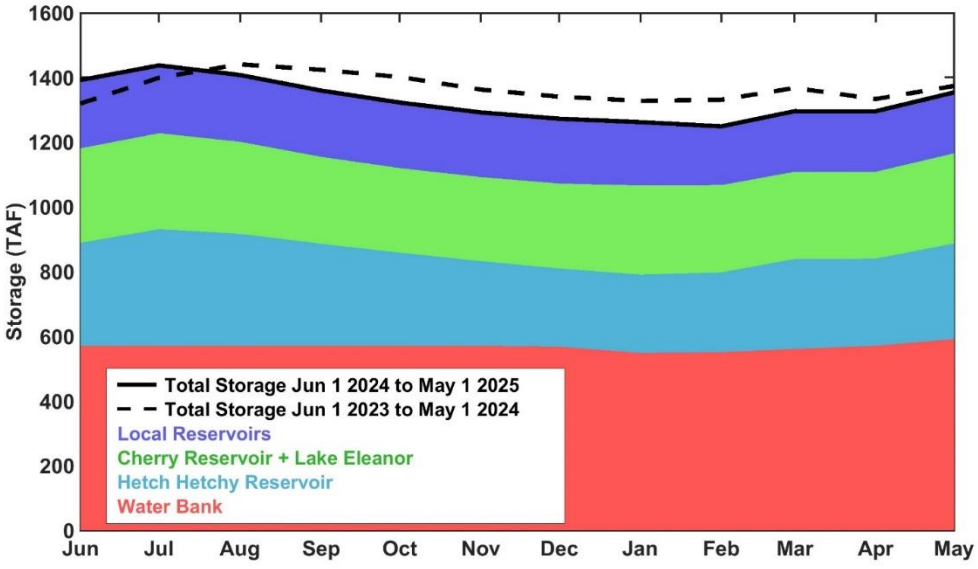

Figure: Local and Upcountry Reservoir storage. Color bands show contributions to total system storage. Solid black line shows total system storage for the past 12 months. Dashed black line shows total system storage the previous 12 months.

Hetch Hetchy System Precipitation Index

Current Month: The April 2025 six-station precipitation index was 1.56 inches, which is 54% of the 1991-2020 April median.

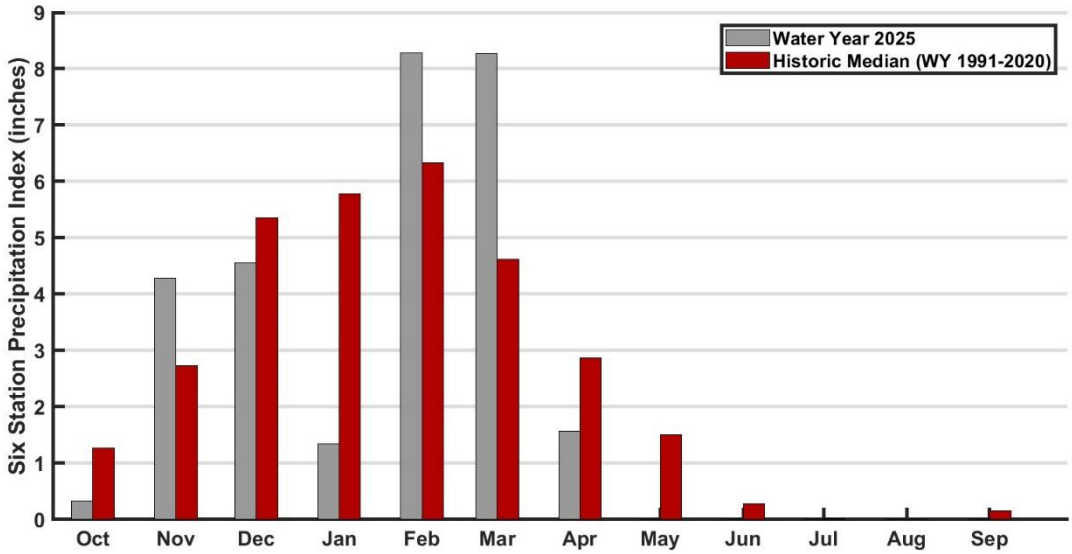

Figure 2: Monthly distribution of the six-station precipitation index relative to the monthly precipitation medians as of May 1. The precipitation index is computed as the average of six Sierra precipitation stations and is an indicator of the overall basin wetness.

Cumulative Precipitation to Date: The cumulative six-station precipitation index for Water Year (WY) 2025 is 28.47 inches, which is 98% of the median to-date. The Hetch Hetchy Weather Station received 1.78 inches of precipitation in April resulting in a total of 29.17 inches for WY 2025, or 93% of WY to-date median. The cumulative WY 2025 Hetch Hetchy Weather Station precipitation is shown in Figure 3 in red.

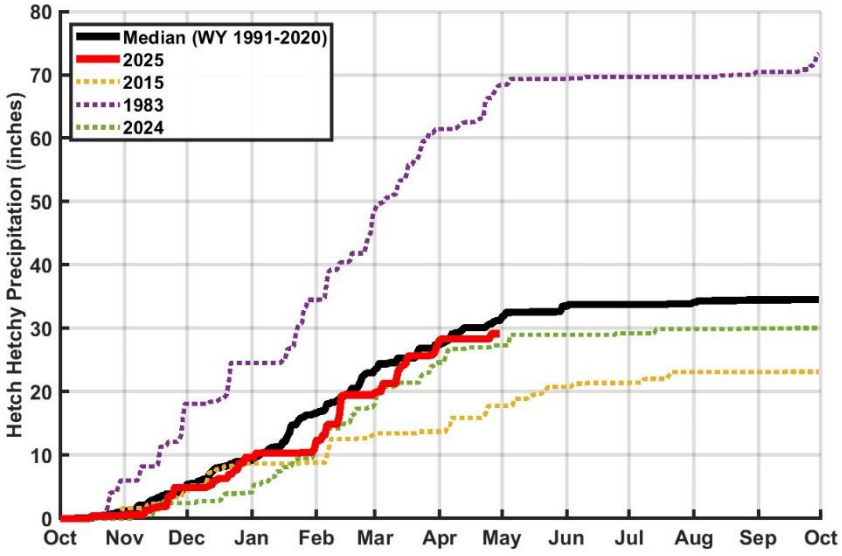

Figure 3: Water Year 2025 cumulative precipitation measured at Hetch Hetchy Weather Station as of May 1. Median cumulative precipitation measured at Hetch Hetchy Weather Station and example wet and dry years are included with Water Year 2025 for comparison purposes.

Tuolumne Basin Unimpaired Inflow

Unimpaired inflow to SFPUC reservoirs and the Tuolumne River at La Grange for April 2025 and Water Year 2025 is summarized below in Table 2.

Table 2. Calculated reservoir inflows and Water Available to City

* All flows are in acre-feet	April 2025				October 1, 2024 through April 30, 2025			
	Observed Flow	Median[1]	Mean[1]	Percent of Mean	Observed Flow	Median[1]	Mean[1]	Percent of Mean
Inflow to Hetch Hetchy Reservoir	106,481	99,383	102,046	104%	213,716	232,271	247,718	86%
Inflow to Cherry Reservoir and Lake Eleanor	89,096	85,278	84,860	105%	228,686	238,994	257,647	89%
Tuolumne River at La Grange	279,235	277,191	298,503	94%	765,330	803,288	983,352	78%
Water Available to City	86,567	92,777	116,214	74%	229,301	236,654	402,185	57%

[1]Hydrologic Record: 1991-2020

Hetch Hetchy System Operations

Water deliveries via the San Joaquin Pipeline (SJPL) were 150 MGD during April 1 – 16. A rate change to 200 MGD occurred on April 17.

Hetch Hetchy Reservoir power draft and stream releases totaled 80,567 acre-feet during the month of April. Required minimum instream release during April was 139 cfs (Type A plus 64 cfs due to Canyon Tunnel flow being greater than 920 cfs). Required releases increase to 164 cfs (Type A plus 64 cfs) in May.

Cherry Reservoir power draft and stream releases totaled 48,662 acre-feet during the month of April. Required minimum instream release is 5 cfs October through June.

Lake Eleanor stream releases totaled 30,087 acre-feet and Cherry-Eleanor pumping transfer totaled 6,813 acre-feet during the month of April. Required minimum instream release April 1 through April 14 was 10 cfs; from April 15 through September 15, it is 20 cfs.

Regional System Treatment Plant Production

The Harry Tracy Water Treatment Plant was offline for the month of April. The Sunol Valley Water Treatment Plant production rate for the month was 28 MGD.

Regional System Water Delivery

The average April delivery rate was 192 MGD which is a 17.8% increase compared to the March delivery rate of 163 MGD.

Local Precipitation

The rainfall summary for April 2025 and Water Year 2025 is presented in Table 3.

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Precipitation Totals at Three Local Area Reservoirs

Weather Station Location	April 2025		October 1, 2024 through April 30, 2025	
	Total (inches)	Percent of Mean for the Month	Total (inches)	Percent of Mean for the Year-To-Date
Pilarcitos Reservoir	1.08	37%	34.62	106%
Lower Crystal Springs Reservoir	0.94	54%	21.81	101%
Calaveras Reservoir	1.11	75%	18.26	104%

*Mean Period = WY 1991-2020

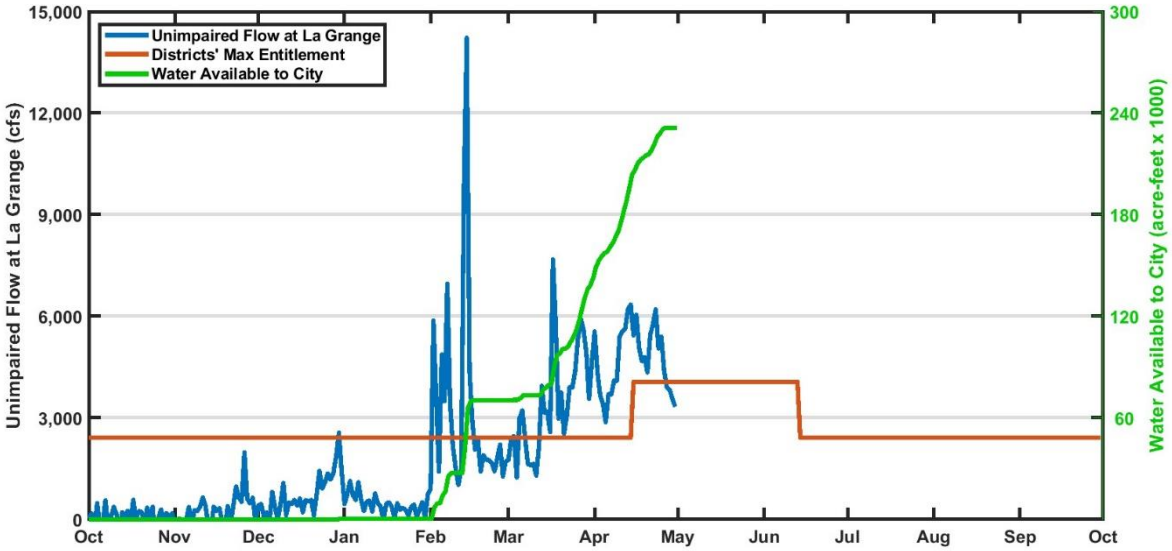
Snowpack, Water Supply and Planned Water Supply Management

Following a strong warming trend in the second half of March, April began with a series of cold storms, boosting cumulative WY precipitation and snowpack at the beginning of the month to near normal conditions (Figure 2, 3, and 5). Above normal temperatures and below normal precipitation with intermittent periods of cooler weather and light precipitation generated near-normal runoff for the month. Cumulative Water Available to the City (WAC) for April was 86,567 AF; Cumulative WAC for WY 2025 was 229,301 AF (Table 2, Figure 4).

Hetch Hetchy Reservoir is drafting via discretionary power generation and discretionary valve releases as part of the Upper Tuolumne River Ecosystem Program (UTREP). SFPUC staff are working with Yosemite National Park staff to conduct these releases in an environmentally beneficial manner.

Cherry Reservoir is expected to continue drafting via minimum instream releases, discretionary valve releases, and discretionary power generation through the end of Spring runoff. Lake Eleanor is full and spilling; the Cherry-Eleanor Pumps are currently deactivated to manage inflows, but are expected to return to service after peak inflows occur and remain in service until the end of Spring runoff. Spill from Lake Eleanor is expected to occur intermittently through the end of Spring runoff.

In all future weather scenarios, forecasted inflows are sufficient to fill Cherry Reservoir, Lake Eleanor, Hetch Hetchy Reservoir, and Water Bank (Figure 6), with additional water available for power generation and planned UTREP releases (Figure 6).



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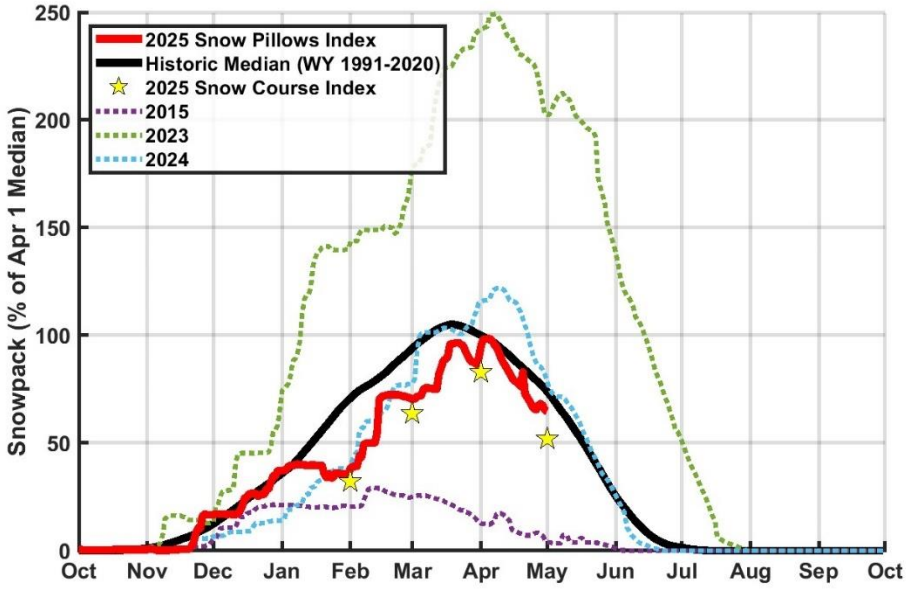

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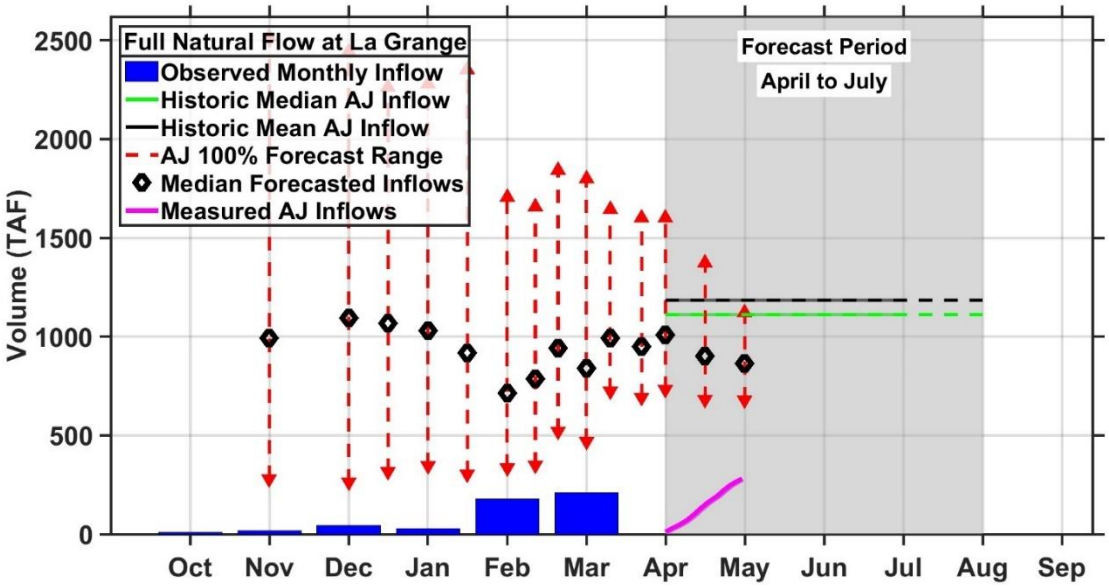

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