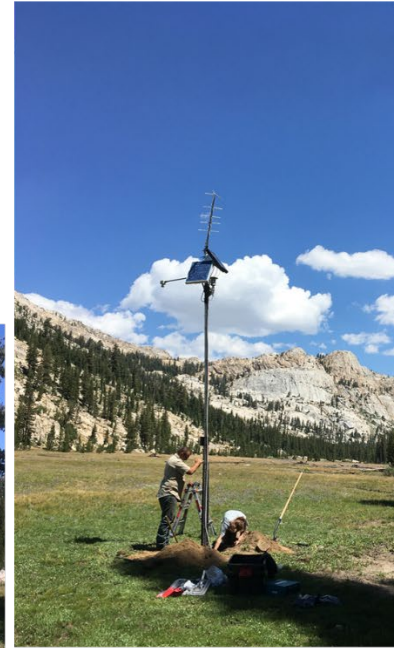


San Francisco Public Utilities Commission

Hydrological Conditions Report

July 2021

J. Chester, C. Graham, N. Waelty, August 13, 2021



Hetch Hetchy Water and Power (HHWP) Water and Power Planning staff visited Horse Meadow in the Cherry Creek watershed to repair meteorological equipment that came down during a heavy January 2021 storm. The tower was installed 30 years ago and is in the design and environmental review stage of being replaced. The Horse Meadow Met Station measures snow depth, water content, air temperature and relative humidity, data that is vital in water supply forecasting and operations.

System Storage

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

Table 1 Current System Storage as of August 1, 2021							
	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	292,944		360,360		67,416		81%
Cherry Reservoir ²	221,881		273,345		51,464		81%
Lake Eleanor ³	24,100		27,100		3,000		89%
Water Bank	334,838		570,000		235,162		59%
Tuolumne Storage	873,763		1,230,805		357,042		71%
Local Bay Area Storage							
Calaveras Reservoir	55,754	18,167	96,824	31,550	41,070	13,383	58%
San Antonio Reservoir	47,170	15,370	50,496	16,454	3,326	1,084	93%
Crystal Springs Reservoir	47,157	15,366	58,377	19,022	11,220	3,656	81%
San Andreas Reservoir	16,548	5,392	18,996	6,190	2,449	798	87%
Pilarcitos Reservoir	1,634	533	2,995	976	1,360	443	55%
Total Local Storage	168,262	54,828	227,688	74,192	59,425	19,364	74%
Total System	1,042,025		1,458,393		416,467		71%

¹ Maximum Hetch Hetchy Reservoir storage with drum gates activated.

² Maximum Cherry Reservoir storage with flash-boards in.

³ Maximum Lake Eleanor storage with flash-boards in.

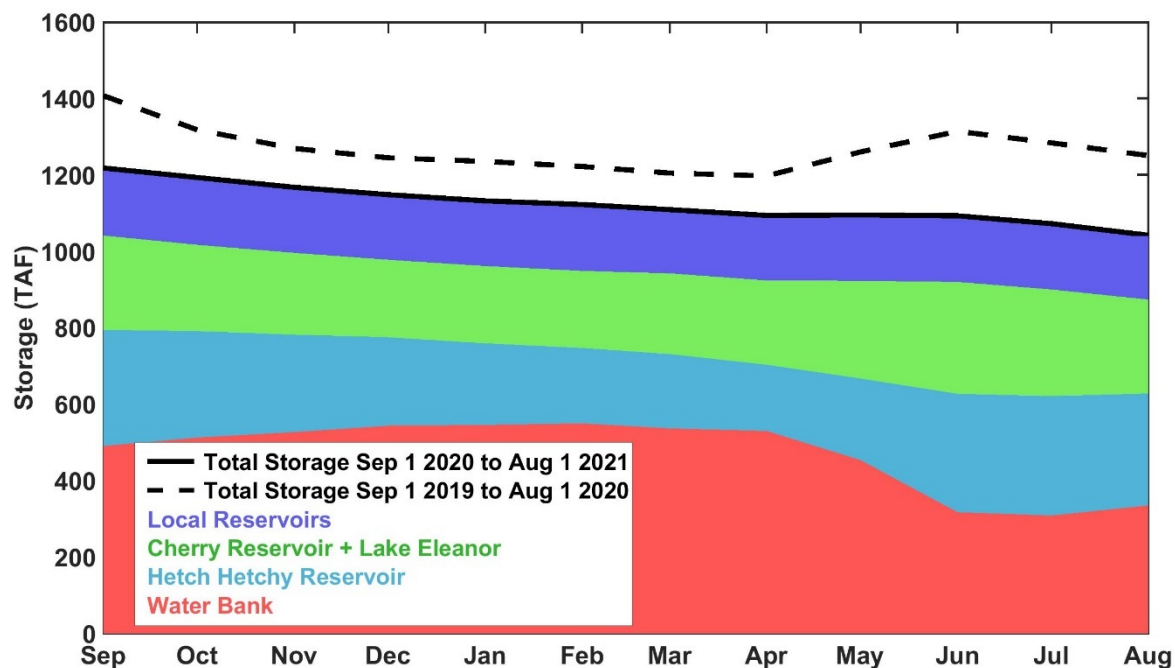


Figure 1: System storage for past 12 months in thousand acre-feet (TAF). Color bands show contributions to total system storage. Solid black line shows total system storage for the past 12 months. Dashed black line shows total system storage the previous 12 months.

Hetch Hetchy System Precipitation Index

Current Month: The July 2021 six-station precipitation index had 0.32 inches of precipitation for the month. The precipitation index is computed as the average of six Sierra precipitation stations and is an indicator of the overall basin wetness.

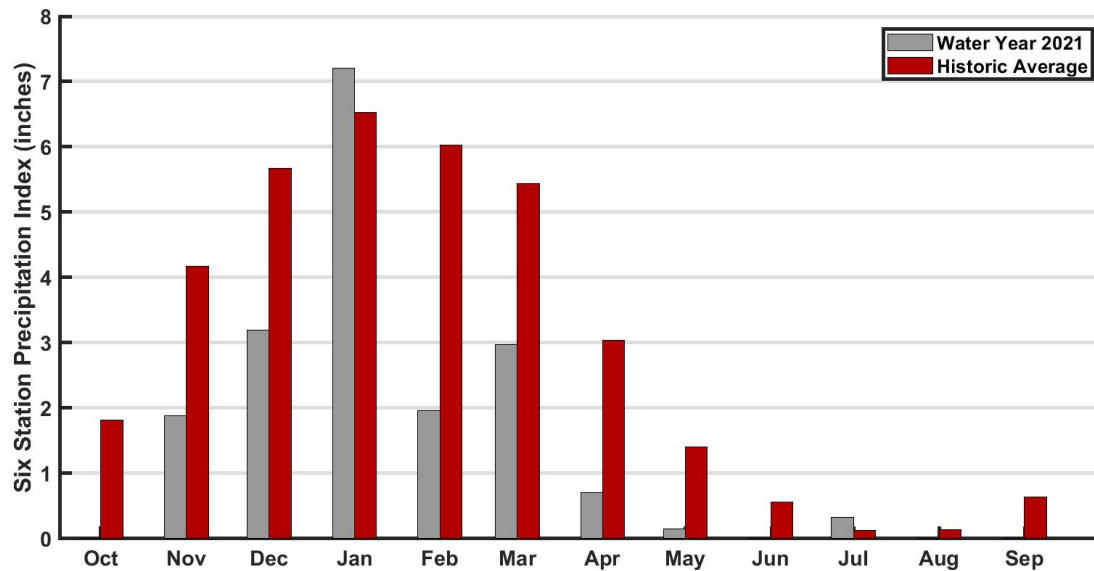


Figure 2: Monthly distribution of the six-station precipitation index relative to the monthly precipitation averages. The precipitation index is computed as the average of six Sierra precipitation stations and is an indicator of the overall basin wetness.

Cumulative Precipitation to Date: As of August 1, the six-station precipitation index for Water Year (WY) 2021 was 18.35 inches, which is 51% of the average annual water year total. The Hetch Hetchy Weather Station received 0.77 inches of precipitation in July for a total of 18.92 inches for WY 2021, or 53% of average to-date. The cumulative WY 2021 Hetch Hetchy precipitation is shown in Figure 3 in red.

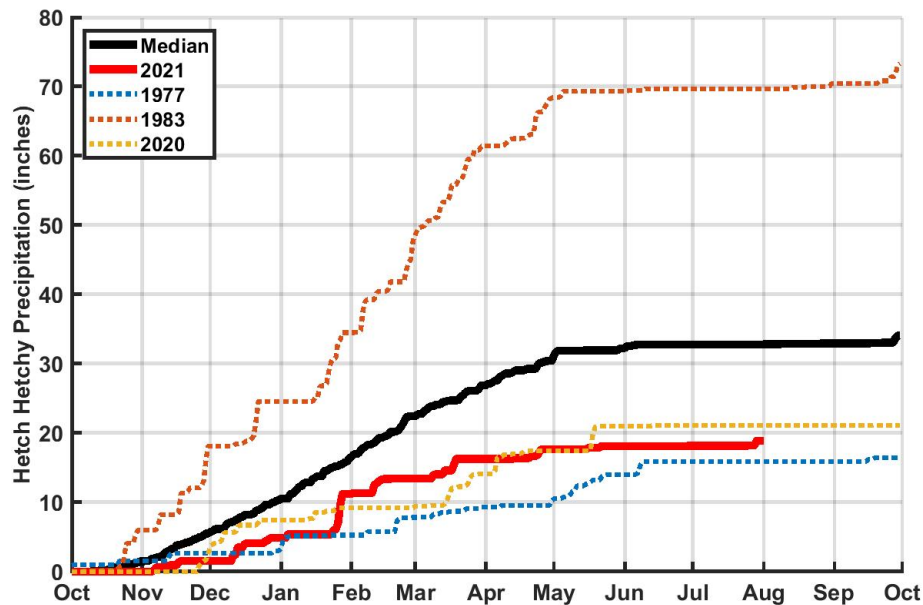


Figure 3: Water Year 2021 cumulative precipitation measured at Hetch Hetchy Weather Station. Median cumulative precipitation measured at Hetch Hetchy Weather Station and example wet and dry years are included with Water Year 2020 for comparison purposes.

Tuolumne Basin Unimpaired Inflow

Unimpaired inflow to SFPUC reservoirs and the Tuolumne River at La Grange for July 2021 and the water year to date is summarized below in Table 2.

Table 2 Calculated Reservoir Inflows and Water Available to City								
* All flows are in acre-feet	July 2021				October 1, 2020 through July 31, 2021			
	Observed Flow	Median ¹	Mean ¹	Percent of Mean	Observed Flow	Median ¹	Mean ¹	Percent of Mean
Inflow to Hetch Hetchy Reservoir	6,692	39,814	74,169	9%	272,102	690,063	718,523	38%
Inflow to Cherry Reservoir and Lake Eleanor	0	11,494	25,282	0%	181,136	439,143	446,920	41%
Tuolumne River at La Grange	11,101	66,625	118,761	9%	598,848	1,653,667	1,778,630	34%
Water Available to City	0	820	46,132	0%	56,864	579,119	762,517	7%

¹Hydrologic Record: 1919-2015

Hetch Hetchy System Operations

Hetch Hetchy Reservoir power draft and stream releases during the month totaled 26,372 acre-feet. Hetch Hetchy Reservoir minimum instream release requirements for July were 75 cfs. Total precipitation for Water Year 2021 has resulted in a Water Year Type C for Hetch Hetchy Reservoir. Hetch Hetchy Reservoir instream releases will remain at 75 cfs for August.

Cherry Reservoir valve and power draft releases totaled 29,714 acre-feet for the month and were used to maintain seasonal target elevations. The required minimum instream release from Cherry Reservoir for July was 15 cfs and remains 15 cfs through the end of September. Lake Eleanor required release for July was 20 cfs and will remain 20 cfs until the end of September.

San Joaquin Pipeline average deliveries were 218 MGD for the month of July with a rate reduction from 248 MGD to 208 MGD on July 8th.

Regional System Treatment Plant Production

The Harry Tracy Water Treatment Plant average production rate for July was 17 MGD. The Sunol Valley Water Treatment Plant production for the month was 10 MGD.

Local System Water Delivery

The average July delivery rate was 222 MGD, which is a 2% decrease below the June delivery rate of 226 MGD.

Local Precipitation

The rainfall summary for July 2021 is presented in Table 3.

Weather Station Location	July		October 1, 2020 through July 31, 2021	
	Total (inches)	Percent of Mean for the Month	Total (inches)	Percent of Mean for the Year-To-Date
Pilarcitos Reservoir	0.02	2%	18.53	50%
Lower Crystal Springs Reservoir	0.00	0%	11.95	46%
Calaveras Reservoir	0.00	0%	10.19	48%

Water Supply and Planned Water Supply Management

To date, WY 2021 Hetch Hetchy accumulated precipitation currently ranks as the 3rd driest on record (n=91 years). Water Year inflows to-date at Hetch Hetchy Reservoir have totaled 272,102 acre-feet, the 4th driest on record for the same period. For the April to July seasonal period, inflows have totaled 232,378 acre-feet, the 5th driest on record, or 40% of average.

Hetch Hetchy Reservoir is drafting via SJPL deliveries and instream releases. Cherry Reservoir is drafting with instream releases and generation at Holm Powerhouse to meet load and provide recreation flows. Lake Eleanor is drafting with instream release. Water Bank is increasing slightly as upcountry releases exceed full natural flows.

The calculated unimpaired flow at La Grange and the allocation of flows between the Districts and the City are shown in Figure 5. As of August 1, there has been 56,864 ac-ft water available to the City in Water Year 2021.

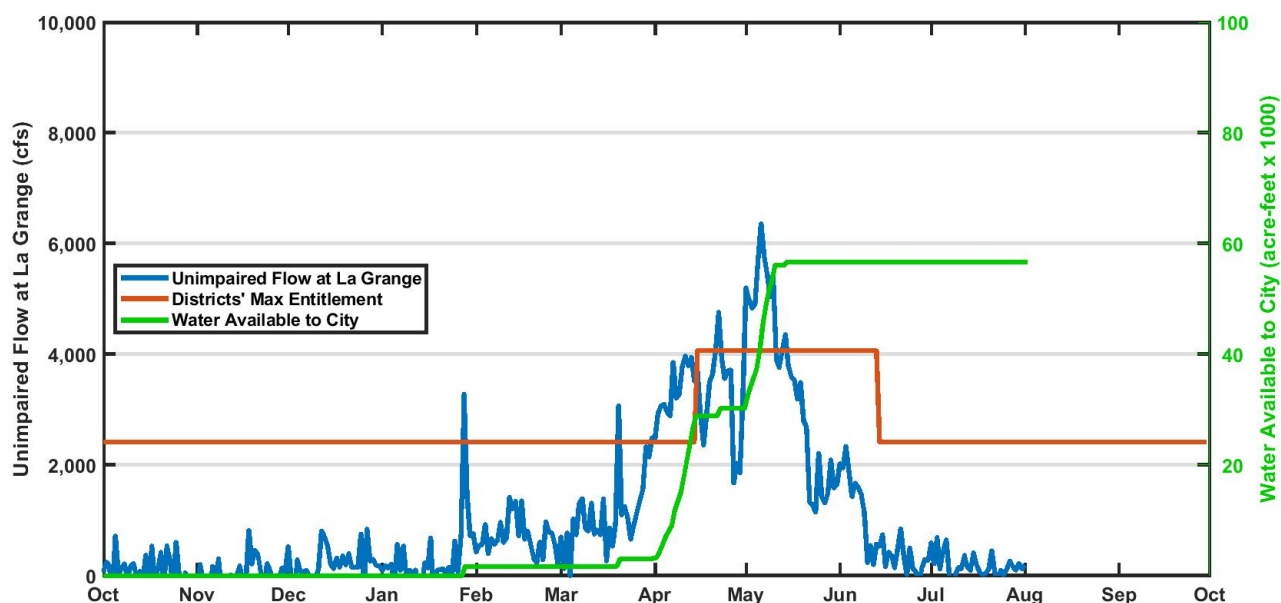


Figure 5: Calculated unimpaired flow at La Grange and the allocation of flows between the Districts and the City.