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RECLAMATION

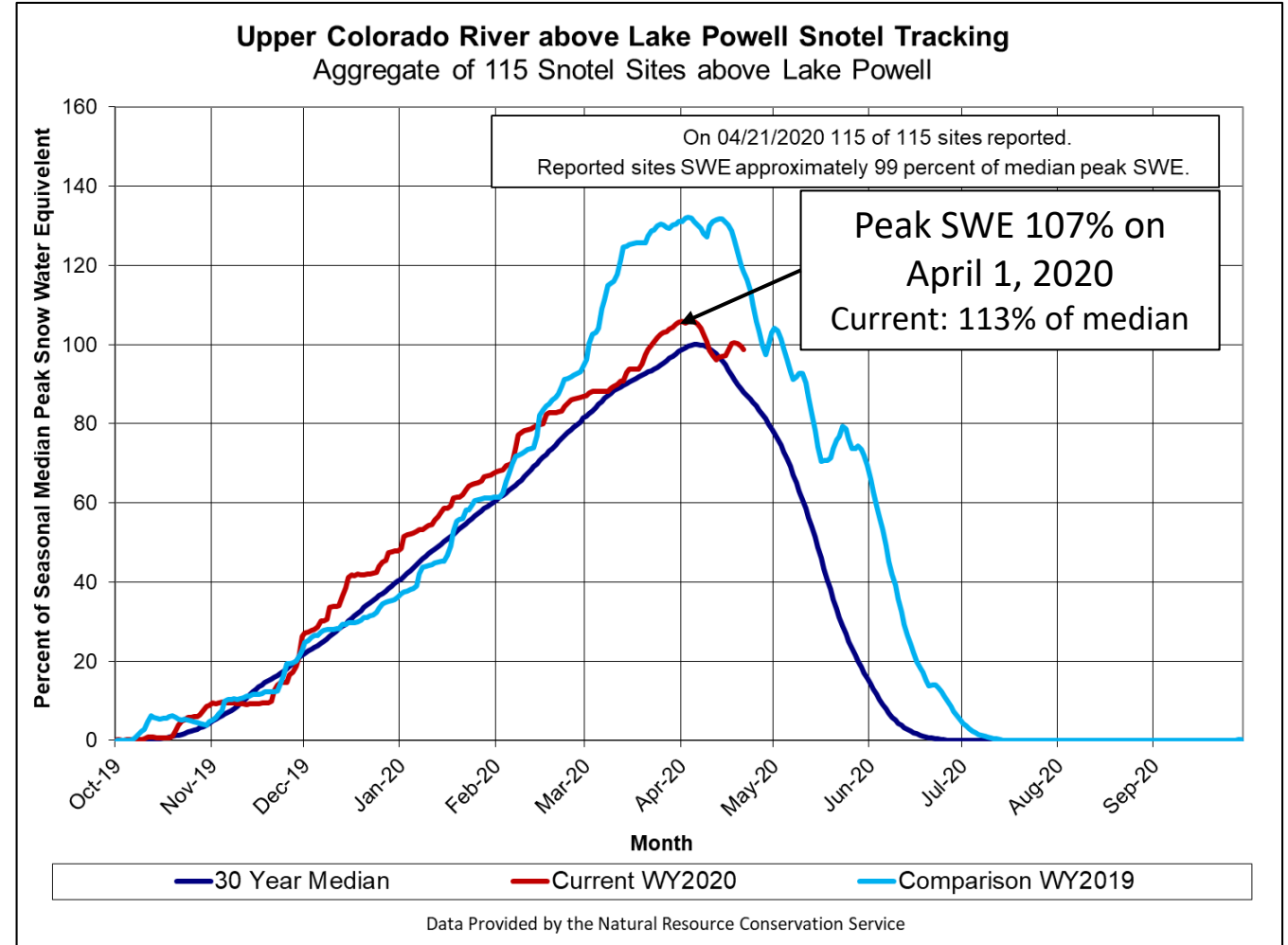
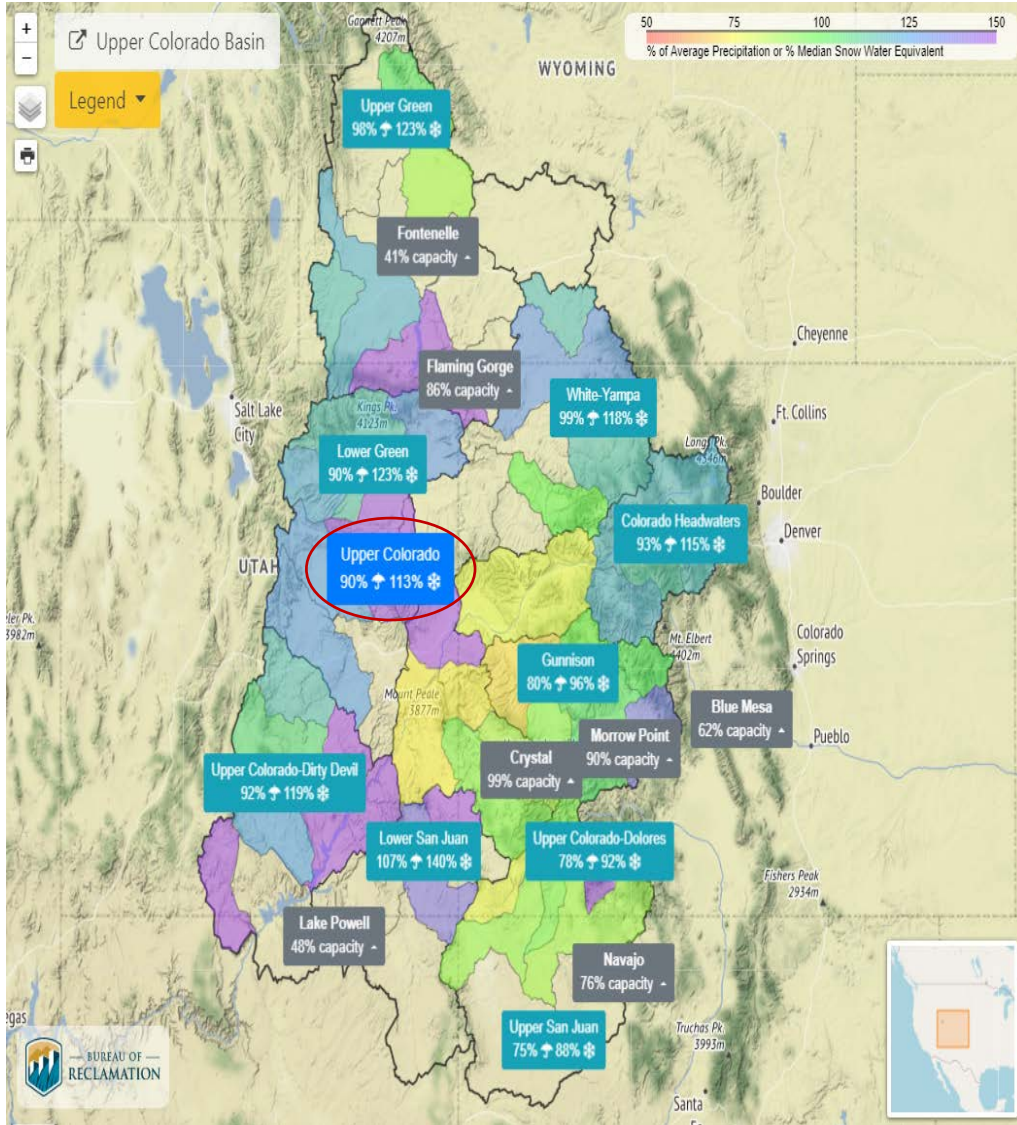
GC Monthly Operational Call

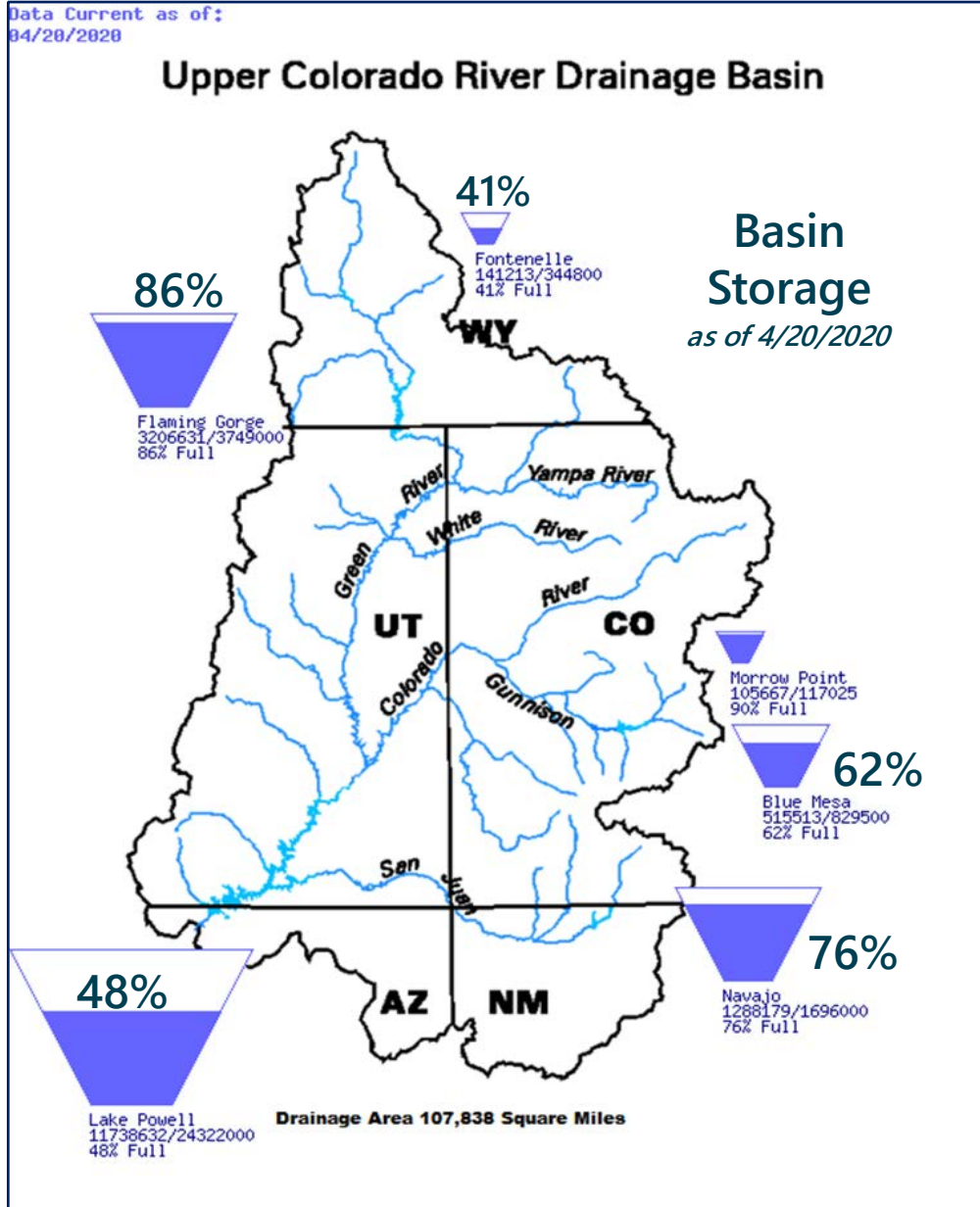
April 22, 2020

Heather E. Patno

Hydraulic Engineer

Upper Basin Snowpack





2020 April – July Unregulated Inflow Forecast as of April 17, 2020

Reservoir	Forecast (kaf)	Percent of Average ¹
Fontenelle	685	94
Flaming Gorge	900	92
Blue Mesa	490	73
Navajo	380	52
Powell	5,300	74

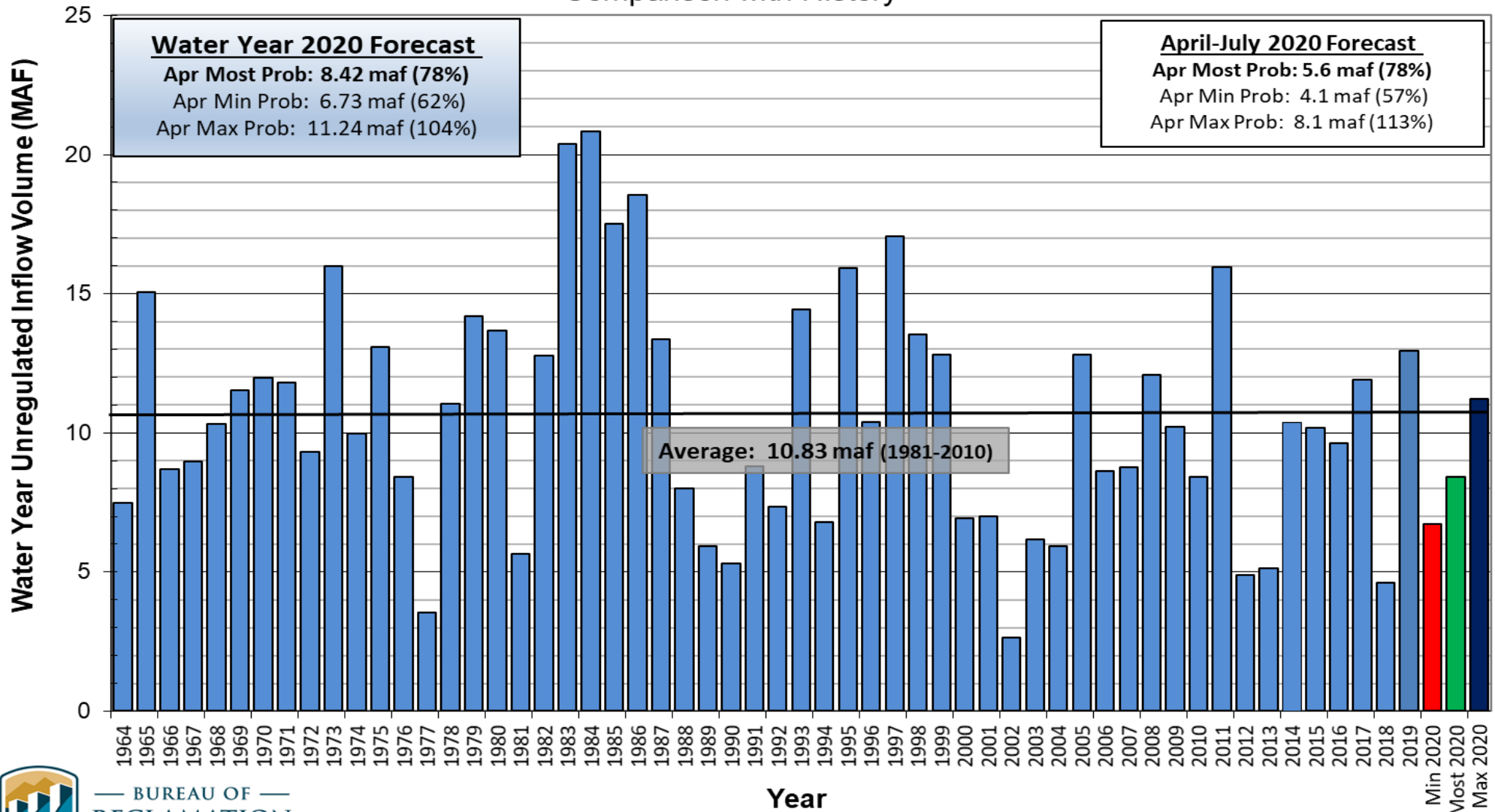
¹ Percent of average based on the period of record from 1981-2010.



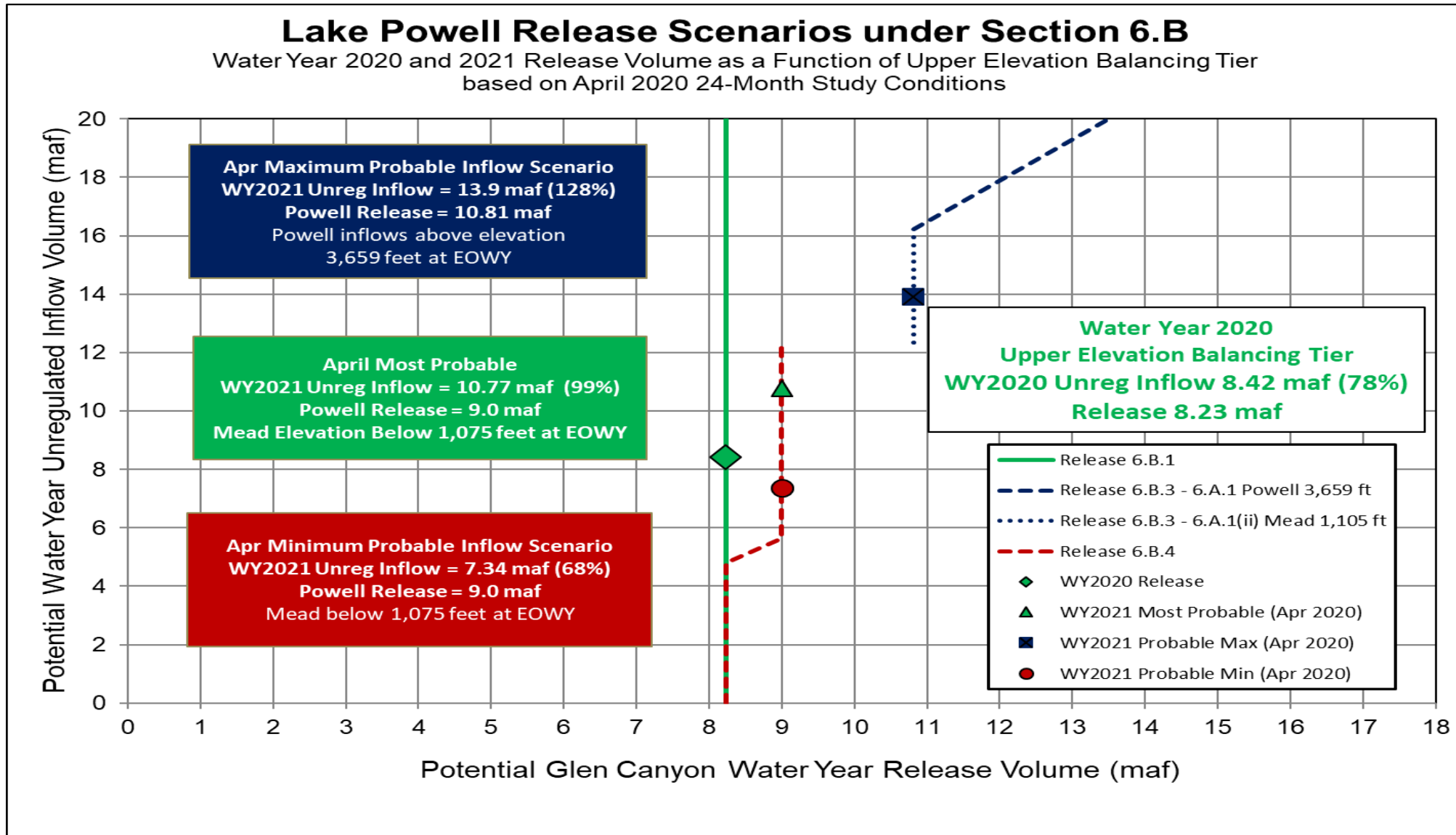
Lake Powell Unregulated Inflow

Water Year 2020 Forecast (issued April 3)

Comparison with History



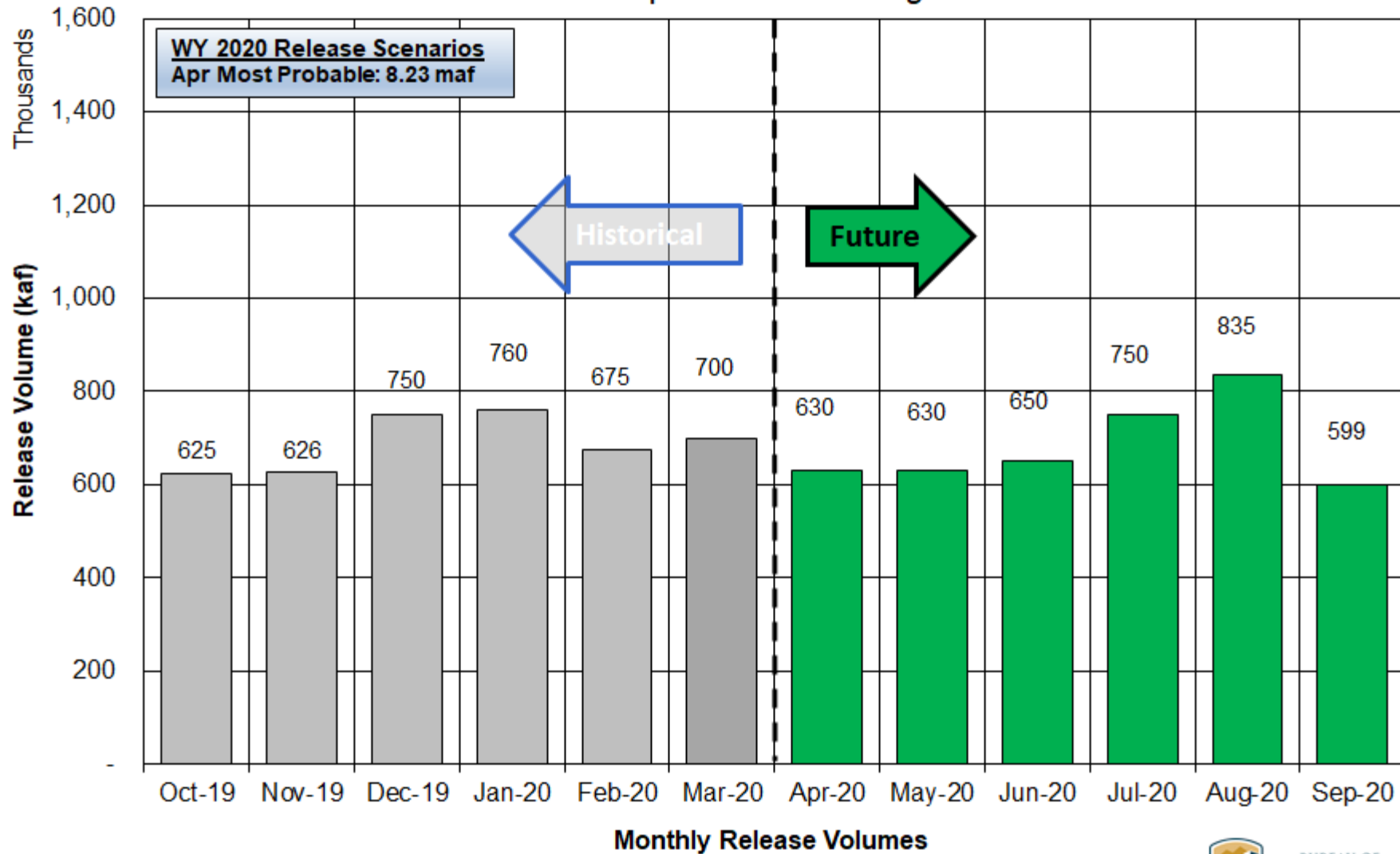
Release Scenarios under Interim Guidelines



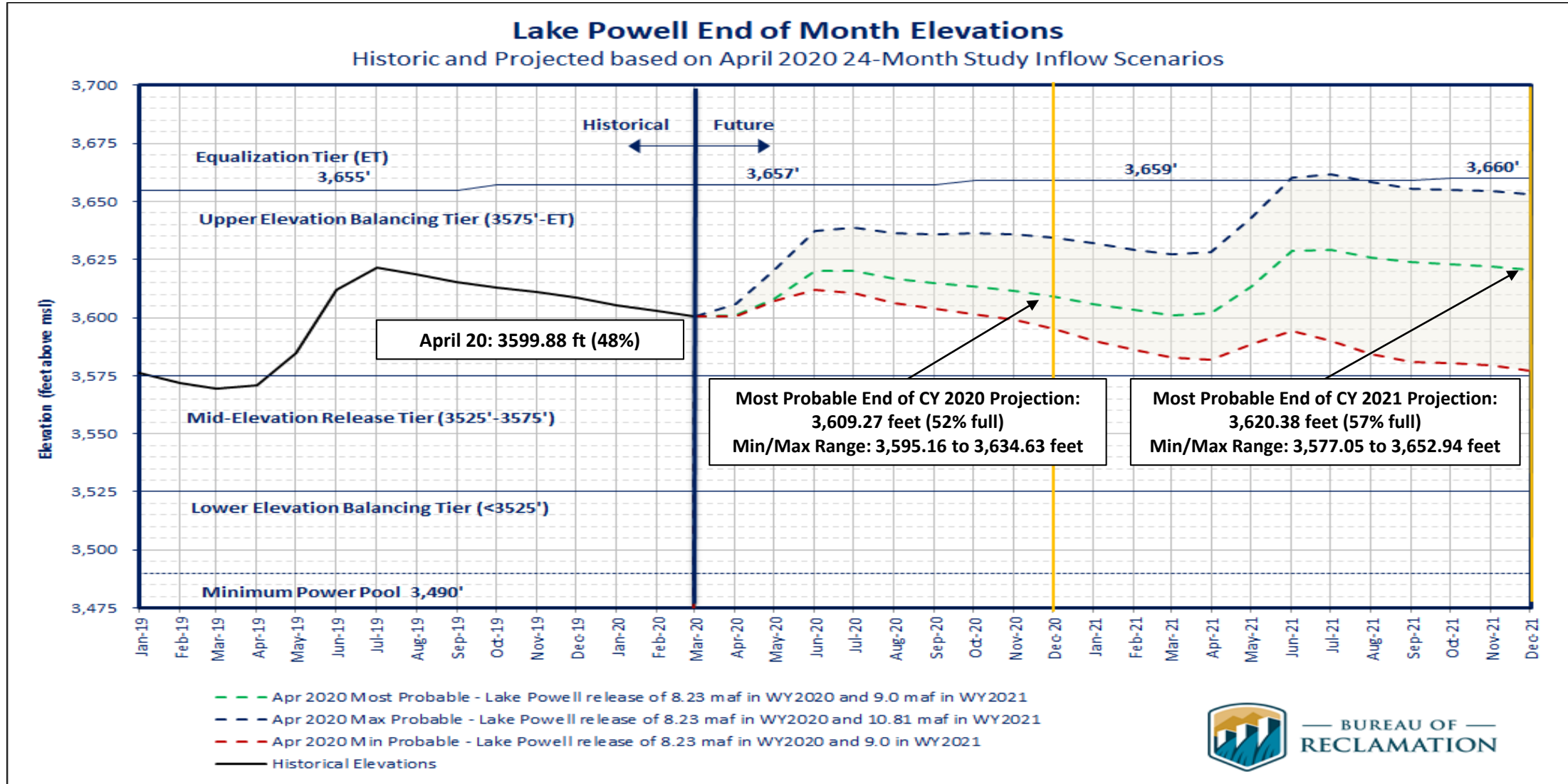
Potential Lake Powell Monthly Release Volume Distribution

Release Scenarios for Water Year 2020

Based on April 2020 Modeling



Powell Elevations

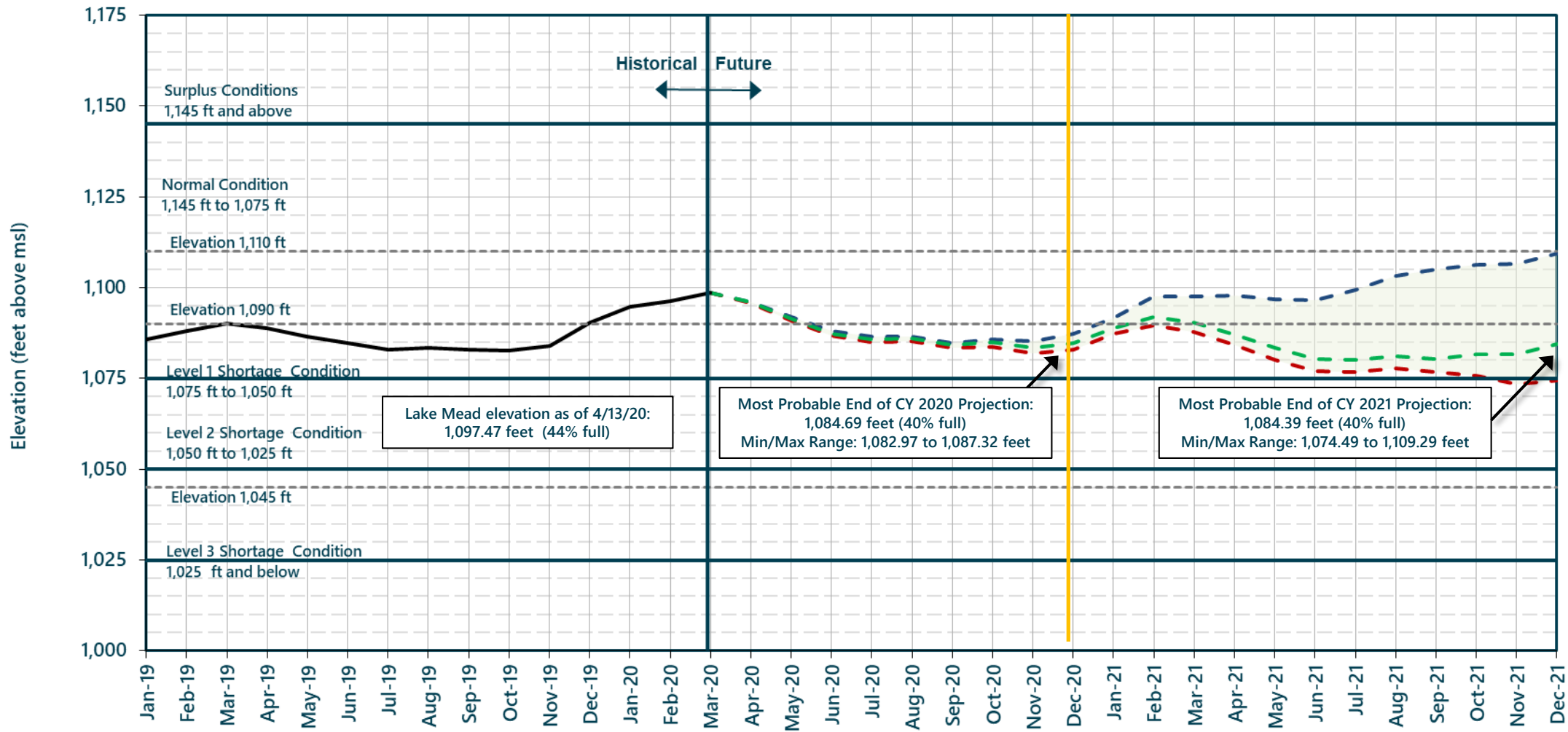


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Lake Mead End of Month Elevations

Projections from the April 2020 24-Month Study Inflow Scenarios



- - - April 2020 Maximum Probable Inflow with a Lake Powell release of 8.23 maf in WY 2020 and 10.81 maf in WY 2021
- - - April 2020 Minimum Probable Inflow with a Lake Powell release of 8.23 maf in WY 2020 and 9.00 maf in WY 2021
- - - April 2020 Most Probable Inflow with a Lake Powell release of 8.23 maf in WY 2020 and 9.00 maf in WY 2021
- Historical Elevations



Glen Canyon Power Plant Planned Unit Outage Schedule for Water Year 2020

Unit Number	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	
1	[Outage]												
2	[Outage]												
3													
4						[Outage]							
5													
6													
7										[Outage]			
8										[Outage]			
Units Available	5	6	6	6	6	5	6	6	6	6	6	6	
Capacity (cfs)	16,800	20,500	20,400	20,400	20,300	16,500	20,200	20,400	20,700	20,700	20,600	20,600	
Capacity (kaf/month)	1,060	1,160	1,420	1,250	1,180	1,100	1,210	1,300	1,390	1,300	1,290	1,250	
Max (kaf) ¹	625	625	750	760	675	700	630	630	650	750	835	599	
Most (kaf) ²	625	625	750	760	675	700	630	630	650	750	835	599	
Min (kaf) ¹	625	625	750	760	675	700	630	630	650	750	835	599	
										(updated 04-21-2020)			

APR MOST
APR MAX
8.23
8.23
8.23

- 1 Projected release, based on April 2020 MOST Probable Inflow Projections and 24-Month Study model runs
- 2 Projected release, based on April 2020 Min and Max Probable Inflow Projections and 24-Month Study model runs
- 3 *Dependent upon availability to shift regulation and reserves



Glen Canyon Power Plant Planned Unit Outage Schedule for Water Year 2021

Unit Number	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	
1													
2													
3													
4													
5													
6													
7													
8													
Units Available	6	6	6	6	6	6	6	6	6	6	6	6	
Capacity (cfs)	20,500	20,500	20,400	20,400	20,300	20,200	20,300	20,500	20,900	20,900	20,800	20,800	APR MOST
Capacity (kaf/month)	1,310	1,270	1,290	1,290	1,160	1,310	1,240	1,300	1,280	1,360	1,350	1,310	APR MAX
Max (kaf) ¹	640	640	720	860	970	920	1,030	910	960	1,110	1,170	877	10.81
Most (kaf) ²	640	640	720	860	750	800	710	710	750	850	900	670	9.0
Min (kaf) ¹	640	640	720	860	750	800	710	710	750	850	900	670	9.0
										(updated 04-21-2020)			

1 Projected release, based on April 2020 Most Probable Inflow Projections and 24-Month Study model runs

2 Projected release, based on April 2020 Min and Max Probable Inflow Projections and 24-Month Study model runs



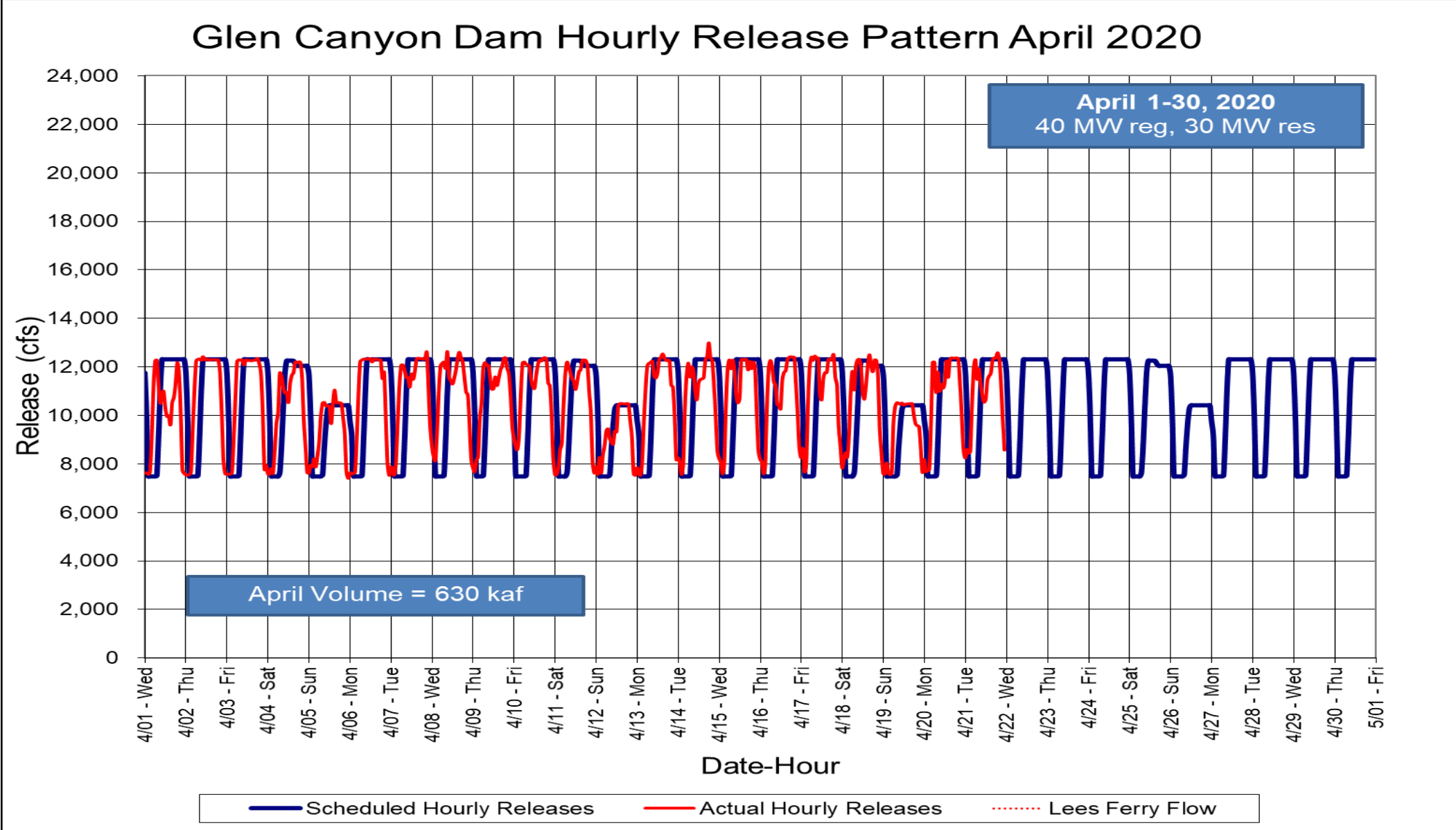
Proposed Bug Flow Hydrograph

- **Hydrograph characteristics:**
 - Implement May 1 – August 31, 2020
 - Steady weekend lows, fluctuating weekday releases
 - Weekend lows 750 cfs higher than weekday lows
 - Weekly, Monthly, and Annual release volumes would not change.

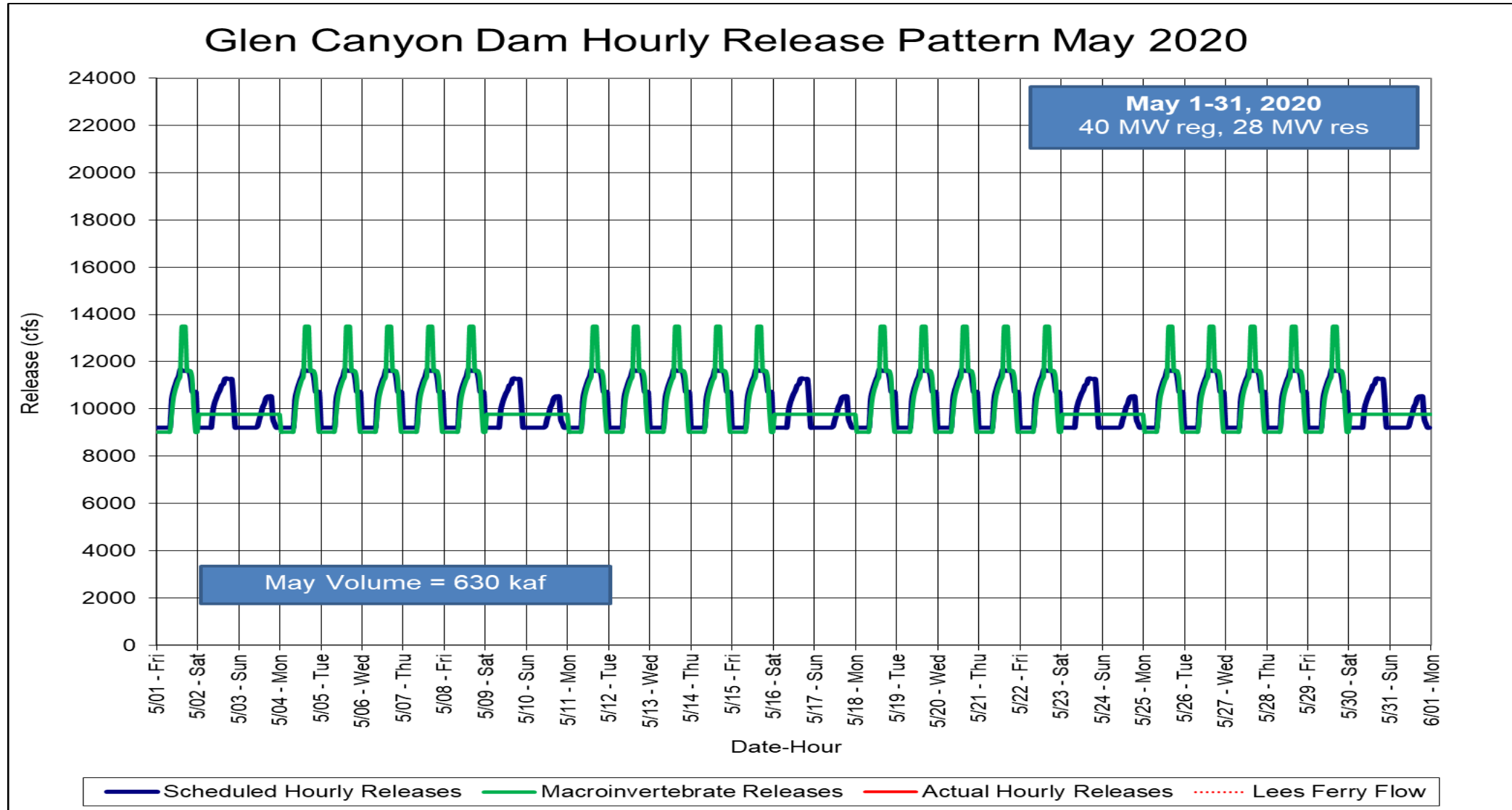
Month	Release Volume (af)	Maximum daily fluctuation	Weekday maximum (cfs)*	Weekday minimum (cfs)*	Weekend release (cfs)*
May	630,000	4,460	13,485	9,025	9,775
June	650,000	6,500	14,565	8,065	8,815
July	750,000	7,500	16,030	8,530	9,280
August	835,000	8,000	17,880	9,880	10,630



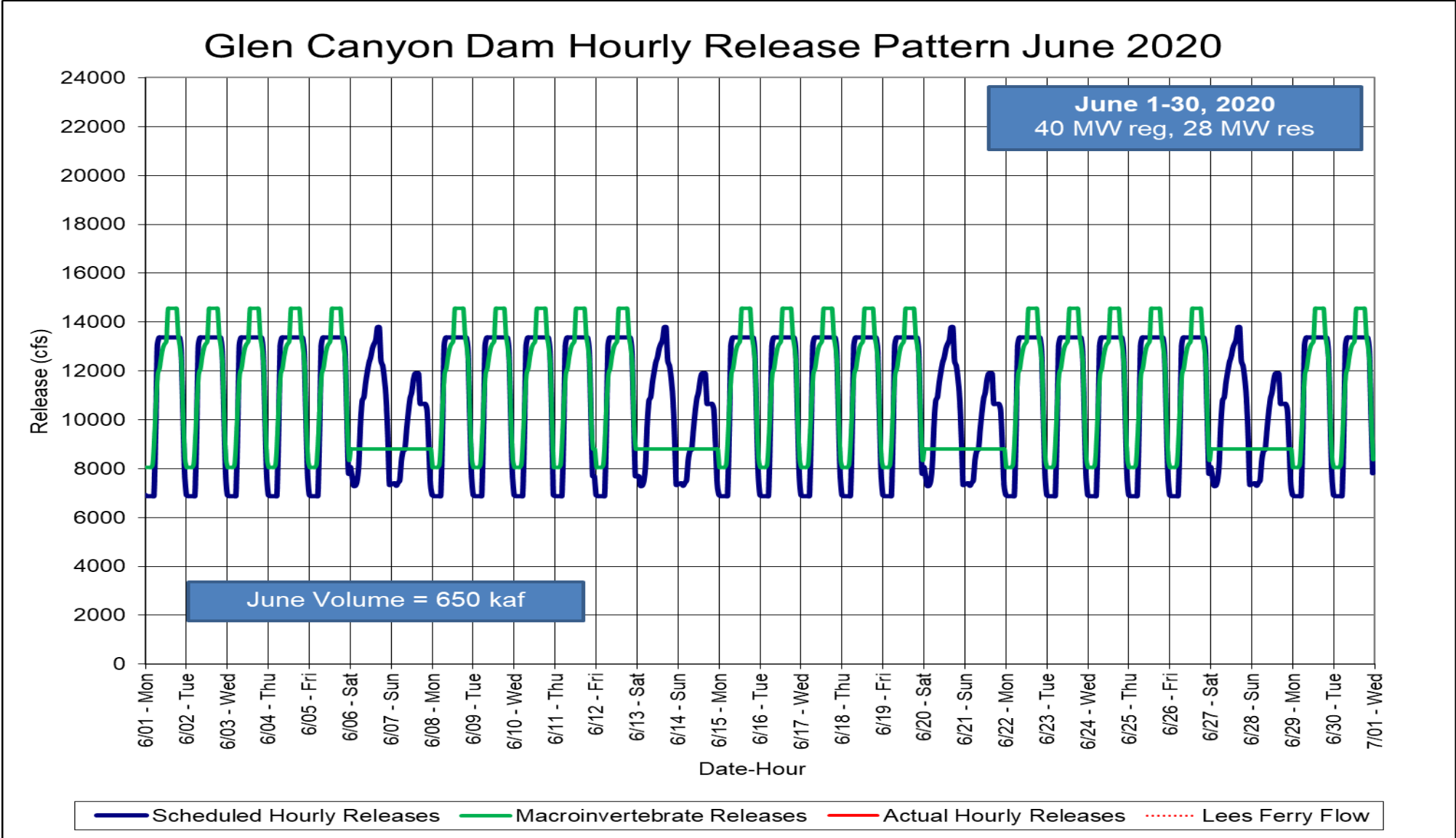
April 2020 Hourly Releases



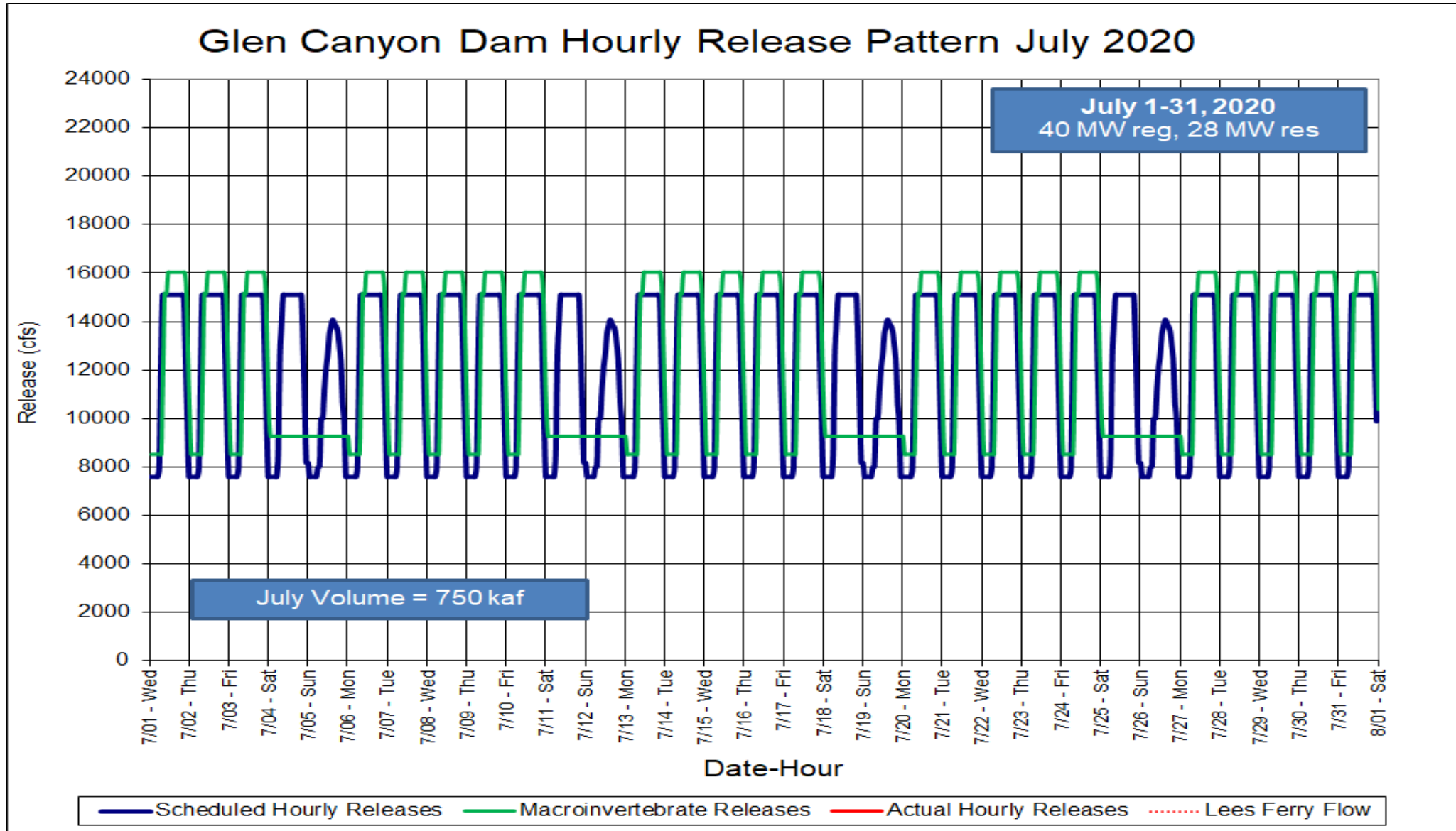
May 2020 Hourly Releases



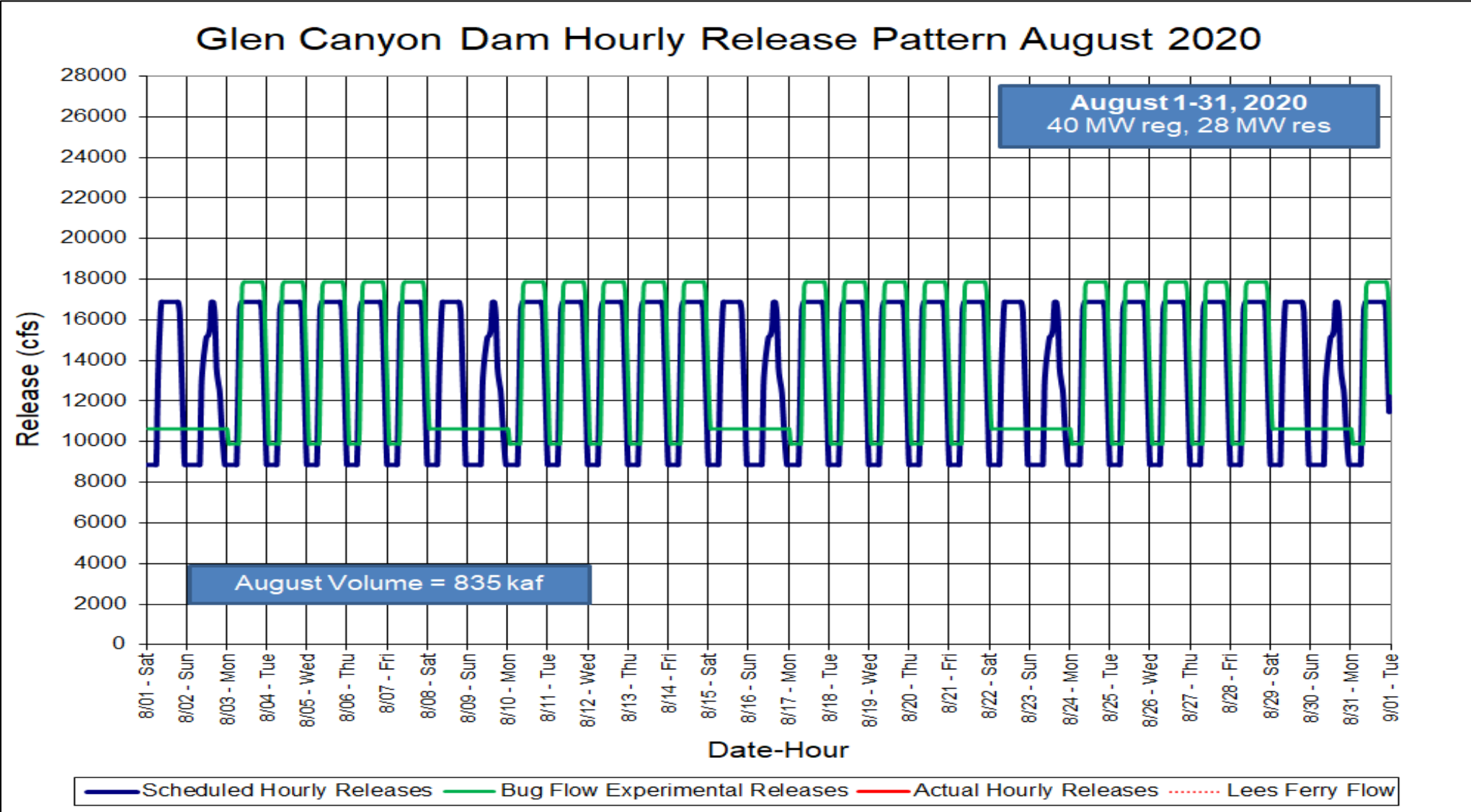
June 2020 Hourly Releases



July 2020 Hourly Releases

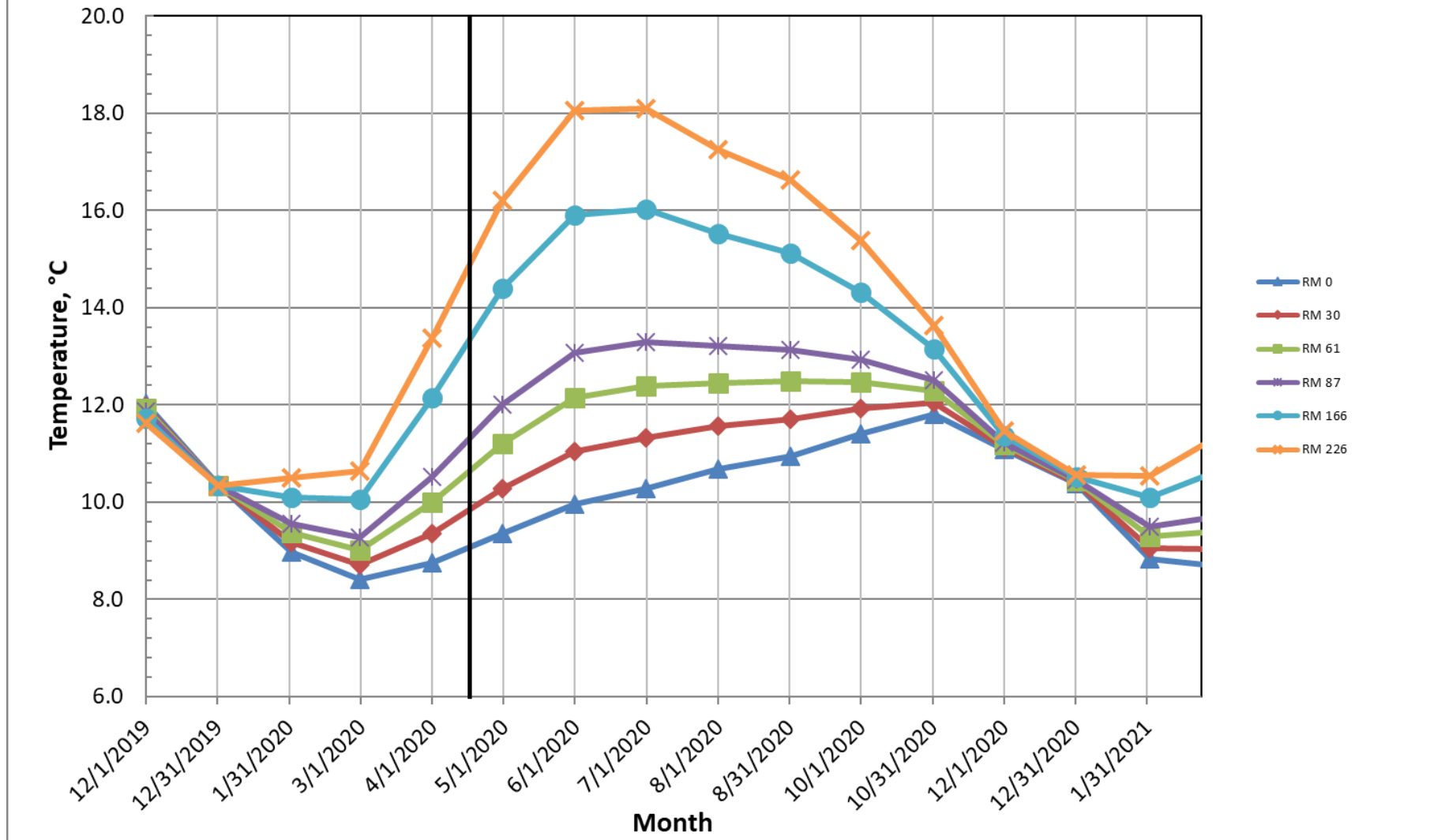


August 2020 Hourly Releases

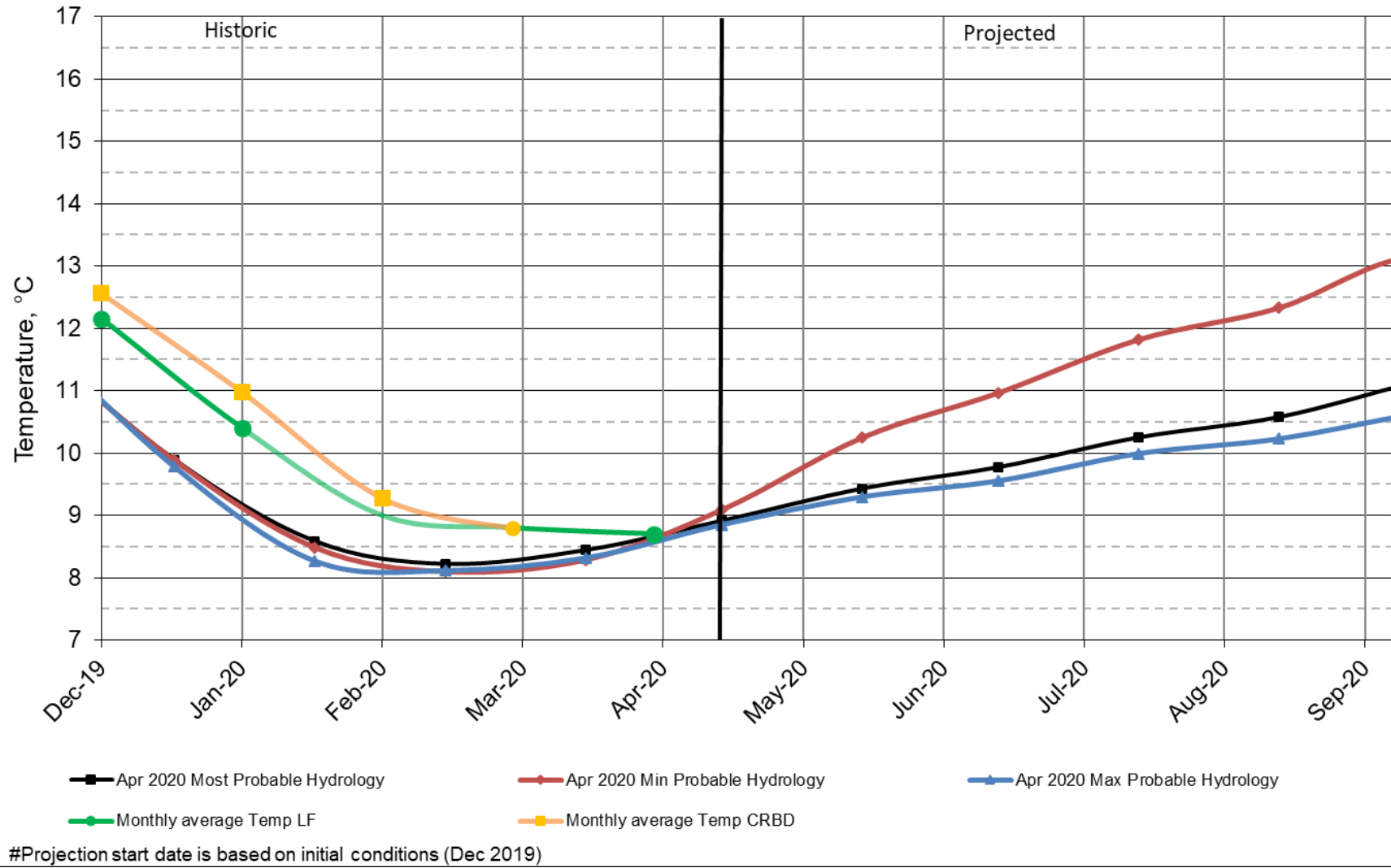


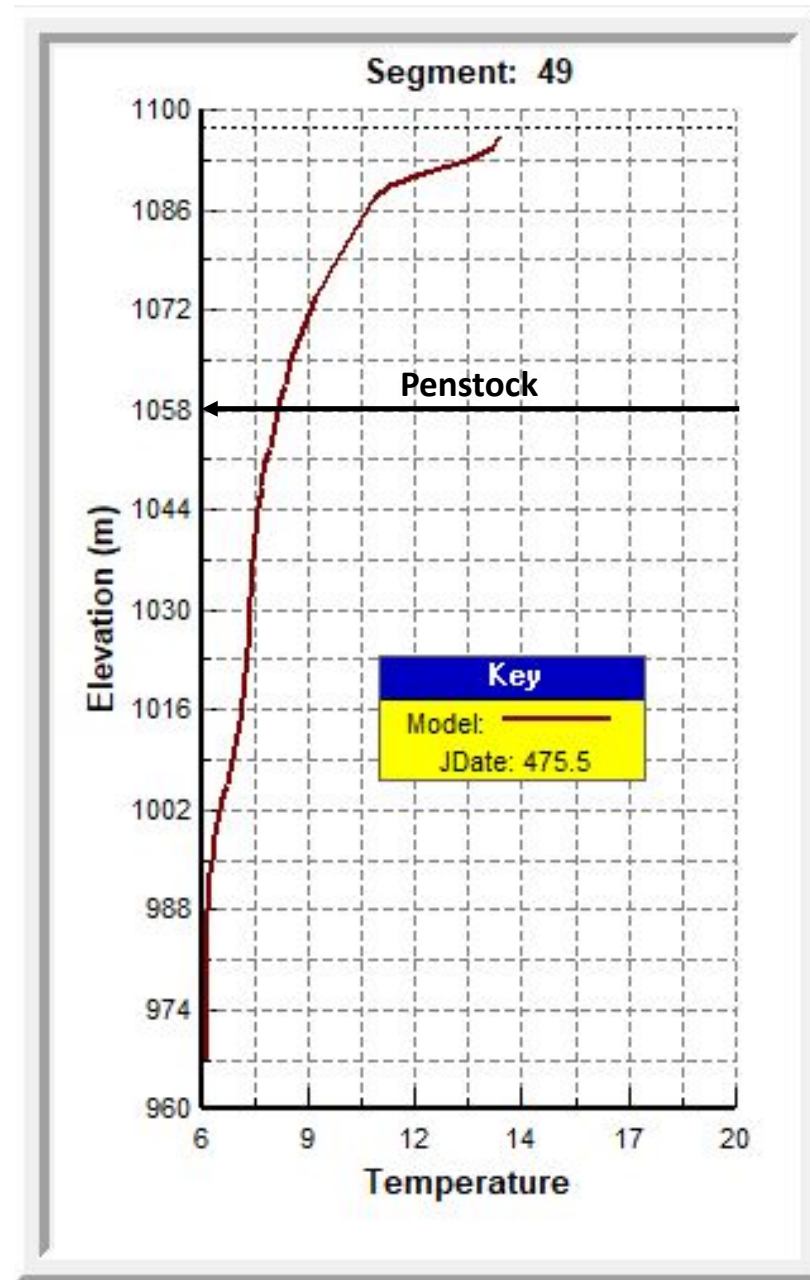
Colorado River, Grand Canyon Water Temperatures

Projections based on April 2020, Most Probable Hydrology

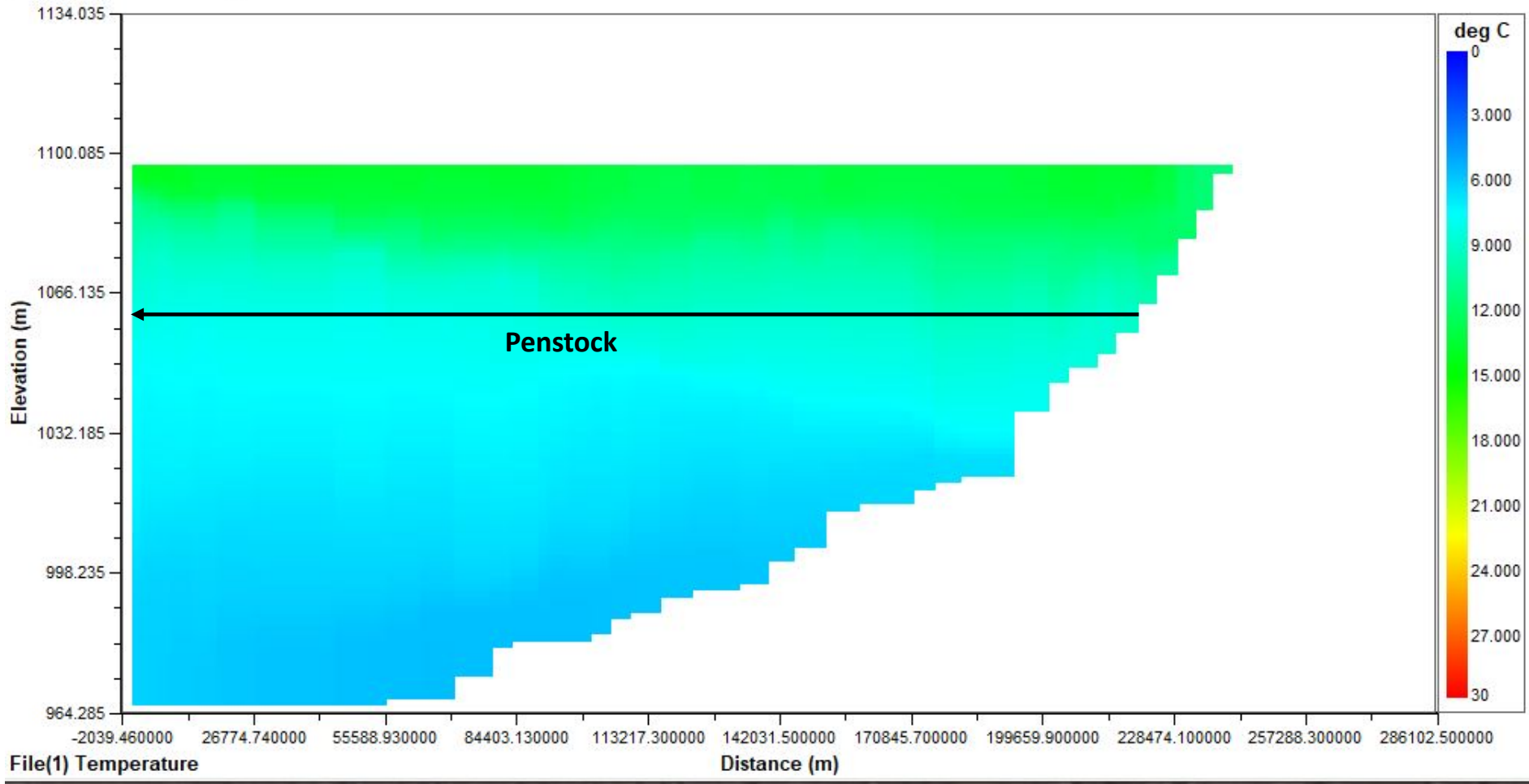


Lake Powell Release Temperature Projected Temperature based on Apr 2020 Forecast





Animation Speed: 0.16
Animation Information: Start: 342.5036 End: 1336.5 JTime: 475.78 2020-Apr-19 18:43
Branches: 1



Heather E. Patno

hpatno@usbr.gov

Office: 801.524.3883

Mobile: 801.656.8200



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