BUREAU OF RECLAMATION

CRFS 2020 Spring Meeting

LC Basin Region Operations Update

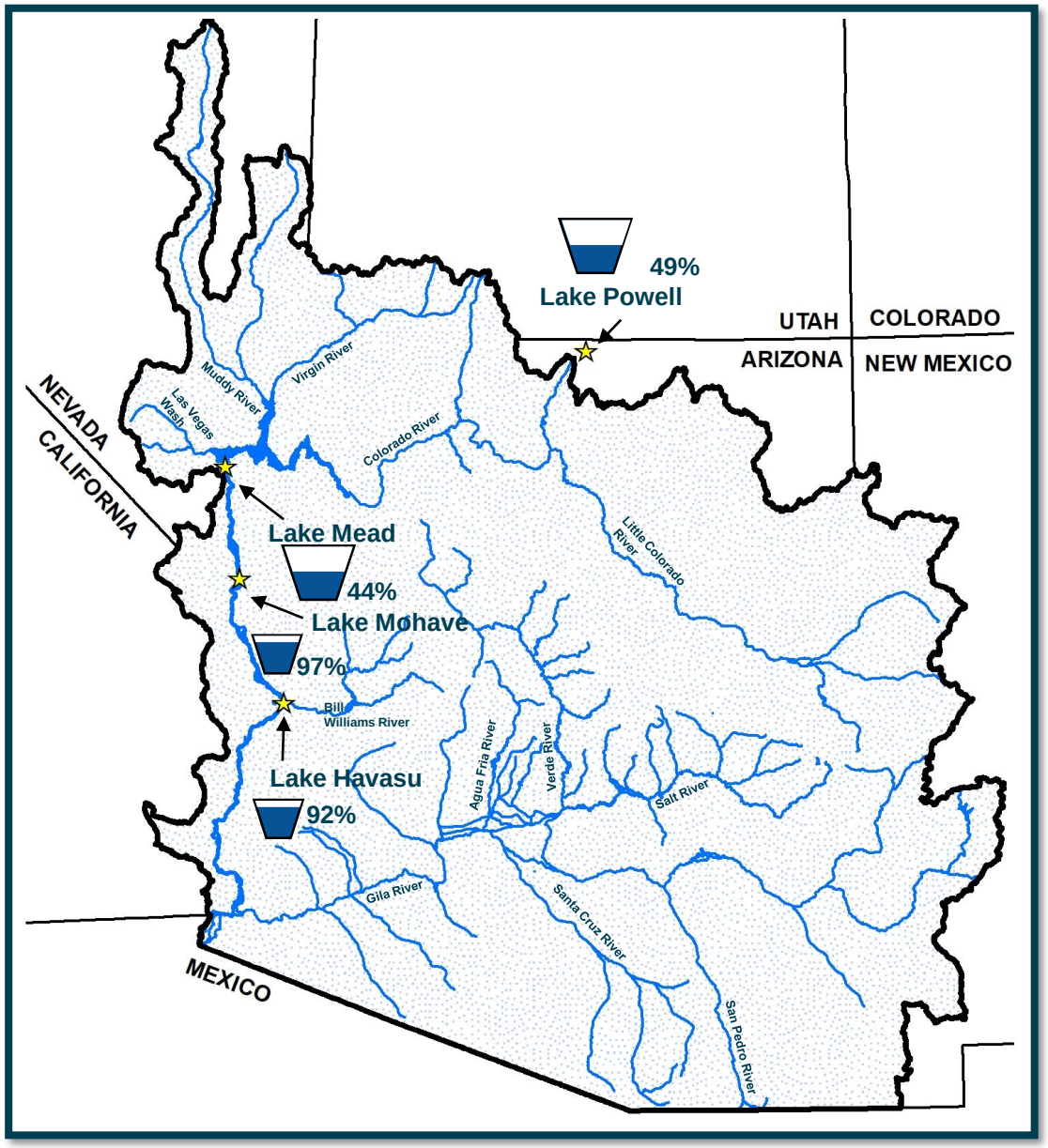
Boulder Canyon Operations Office

March 26, 2020

Overview

- Current Conditions & 2020 Operations
- 2021 Projected Operations

Lower Colorado River Basin
Current Conditions



Colorado River System Conditions

as of March 24, 2020

Reservoir	Percent Full	Storage (maf)	Elevation (feet)
Lake Powell	49	11.85	3,601.09
Lake Mead	44	11.57	1,098.19
Lake Mohave	97	1.75	645.00
Lake Havasu	92	0.57	447.61
Total System Storage	52	31.08	-
Total System Storage (at this time last year)	*45*	*26.82*	-

Lower Basin Side Inflows – WY/CY 2019[1,2]

Intervening Flow from Glen Canyon to Hoover Dam

	Month in WY/CY 2019	5-Year Average Intervening Flow (KAF)	Observed Intervening Flow (KAF)	Observed Intervening Flow (% of Average)	Difference From 5-Year Average (KAF)
HISTORICAL	October 2018	82	100	123%	19
	November 2018	54	67	125%	13
	December 2018	51	52	101%	<1
	January 2019	83	106	128%	23
	February 2019	91	126	138%	35
	March 2019	57	200	353%	143
	April 2019	49	118	240%	69
	May 2019	30	108	361%	78
	June 2019	17	69	408%	52
	July 2019	80	20	25%	-60
	August 2019	100	64	64%	-37
	September 2019	91	58	64%	-33
	October 2019	82	34	42%	-47
	November 2019	54	116	214%	62
	December 2019	51	117	227%	65
	WY 2019 Totals	784	1,087	139%	303
	CY 2019 Totals	784	1,134	145%	350

[1] Values were computed with the LC's gain-loss model for the most recent 24-month study.

[2] Percents of average are based on the 5-year mean from 2014-2018.

Lower Basin Side Inflows – WY/CY 2020[1,2]

Intervening Flow from Glen Canyon to Hoover Dam

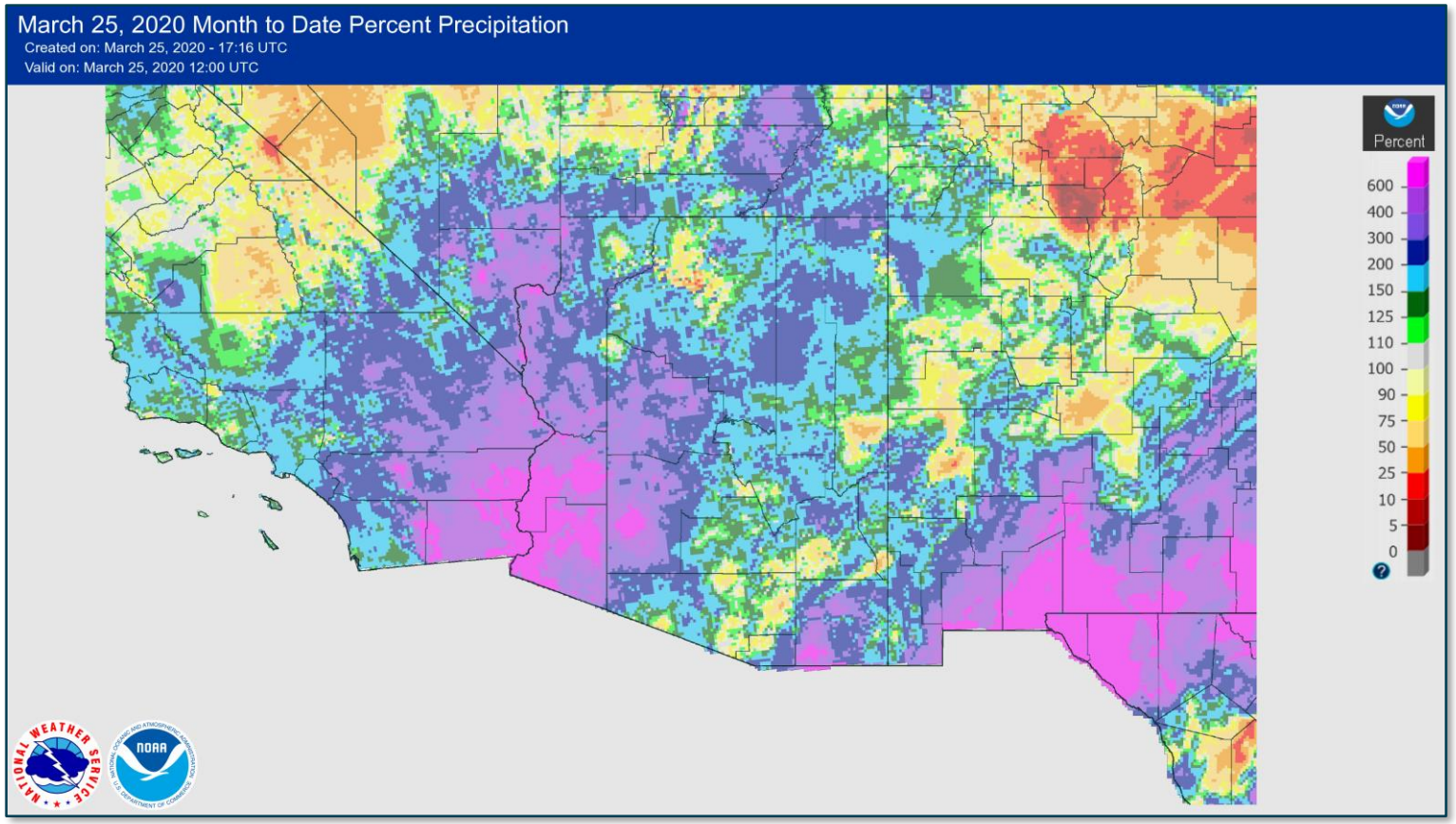
Month in WY/CY 2020		5-Year Average Intervening Flow (kaf)	Observed Intervening Flow (kaf)	Observed Intervening Flow (% of Average)	Difference From 5-Year Average (kaf)
Observed	October 2019	75	34	45%	-41
	November 2019	68	116	169%	47
	December 2019	64	118	184%	54
	January 2020	95	75	79%	-20
	February 2020	101	67	66%	-34
Projected	March 2020	91	91		
	April 2020	69	69		
	May 2020	49	49		
	June 2020	28	28		
	July 2020	73	73		
	August 2020	91	91		
	September 2020	75	75		
	October 2020	75	75		
	November 2020	68	68		
	December 2020	64	64		
	WY 2020 Totals	878	884	101%	6
	CY 2020 Totals	878	824	94%	-54

[1] Values were computed with the LC's gain-loss model for the most recent 24-month study.

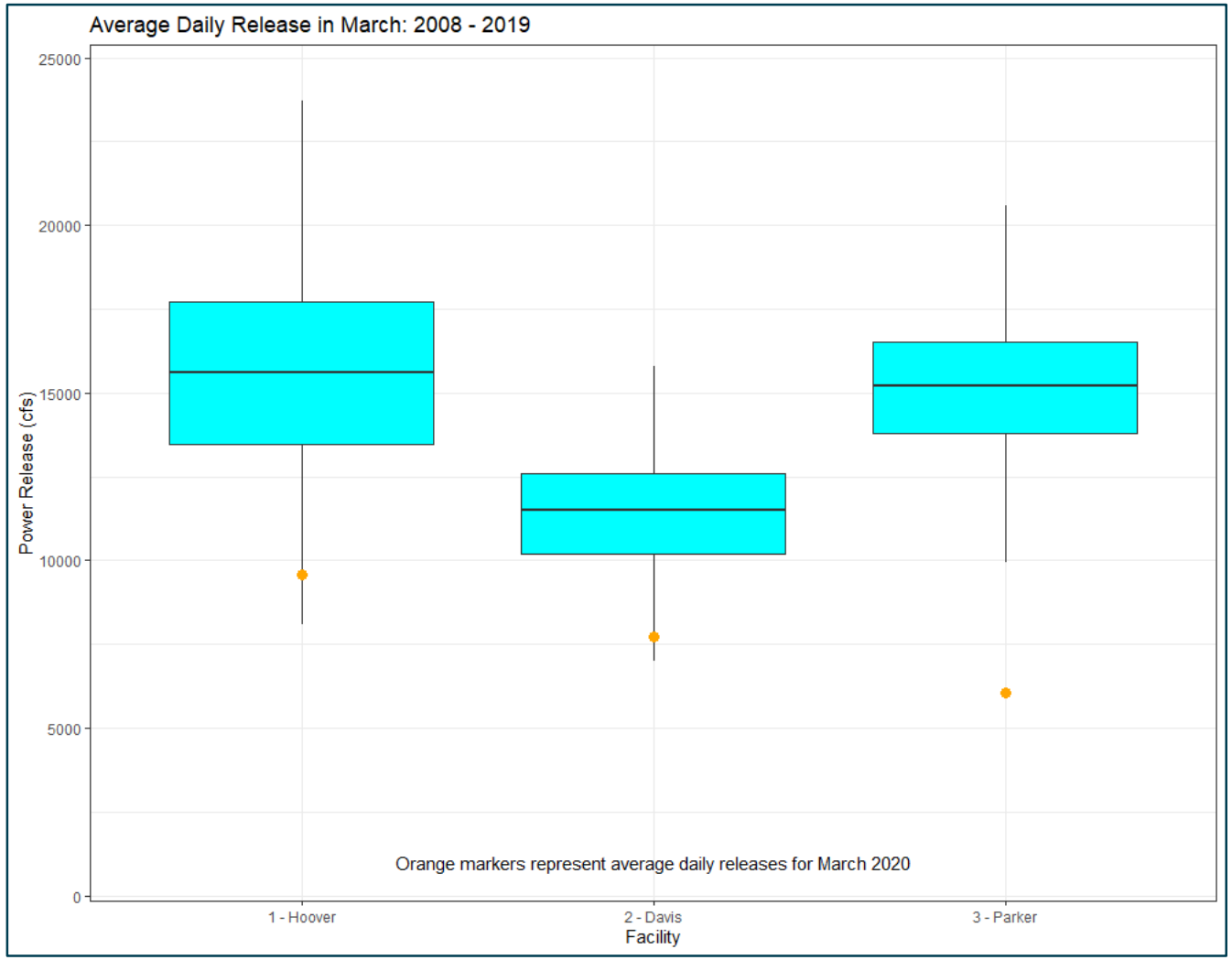
[2] Percents of average are based on the 5-year mean from 2015-2019.

Wet Conditions in the Lower Basin

- Large rain events during March, in the Lower Colorado Basin, are typically unprecedented
- Wet conditions have resulted in decreased agricultural demand
- Decreased reservoir releases have resulted in higher than normal reservoir elevations
  - Mead: 2.30 feet increase since March 9
  - Mohave: 1.17 feet increase since March 9
  - Havasu: 0.79 feet decrease since March 9
    - Reached a maximum elevation of 449.45 feet on 3/12
- River Operations is working closely with Western Area Power Administration to balance Lake Mohave and Lake Havasu



Lower Basin Region Dam Releases



EXPLANATION

Largest value within 1.5 times interquartile range above 75th percentile

75th percentile

50th percentile (median)

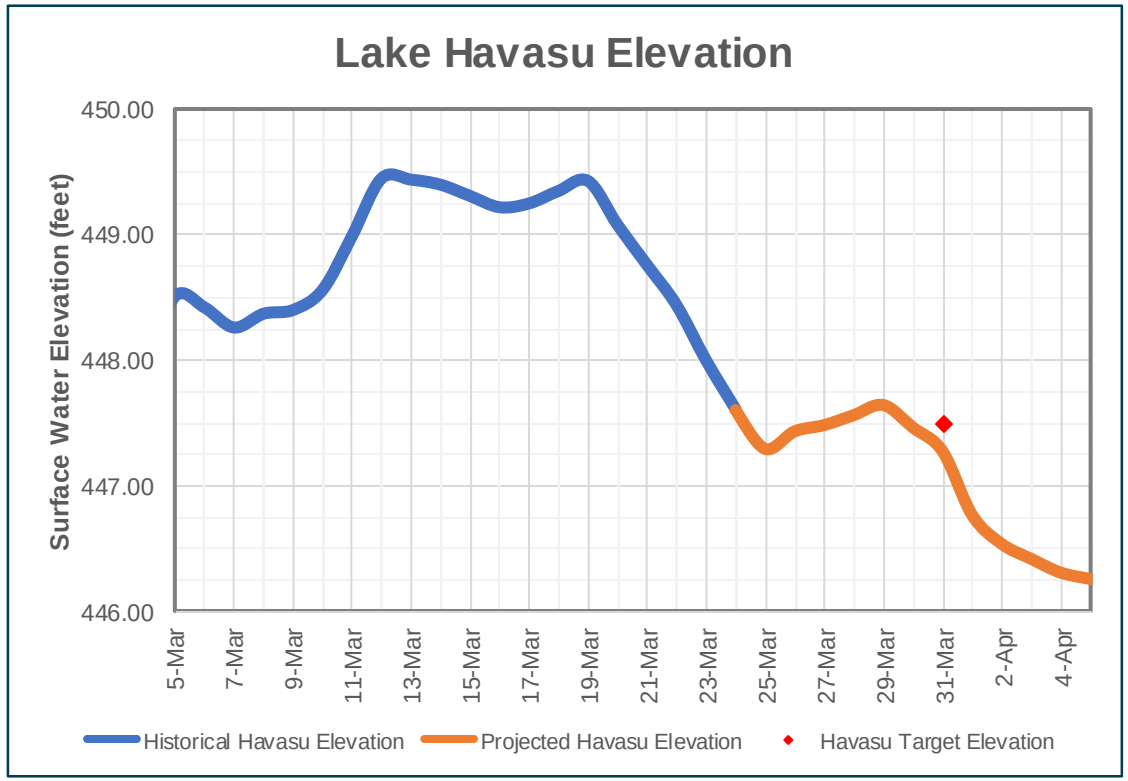
25th percentile

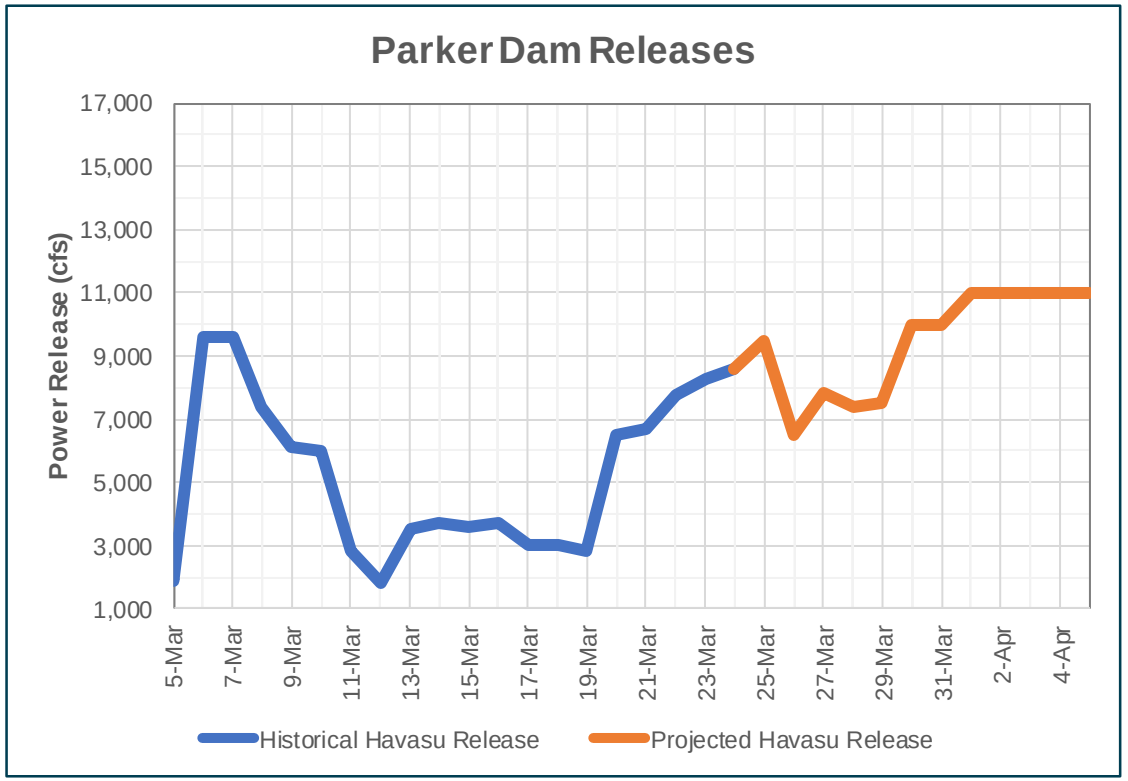
Interquartile range

Smallest value within 1.5 times interquartile range below 25th percentile

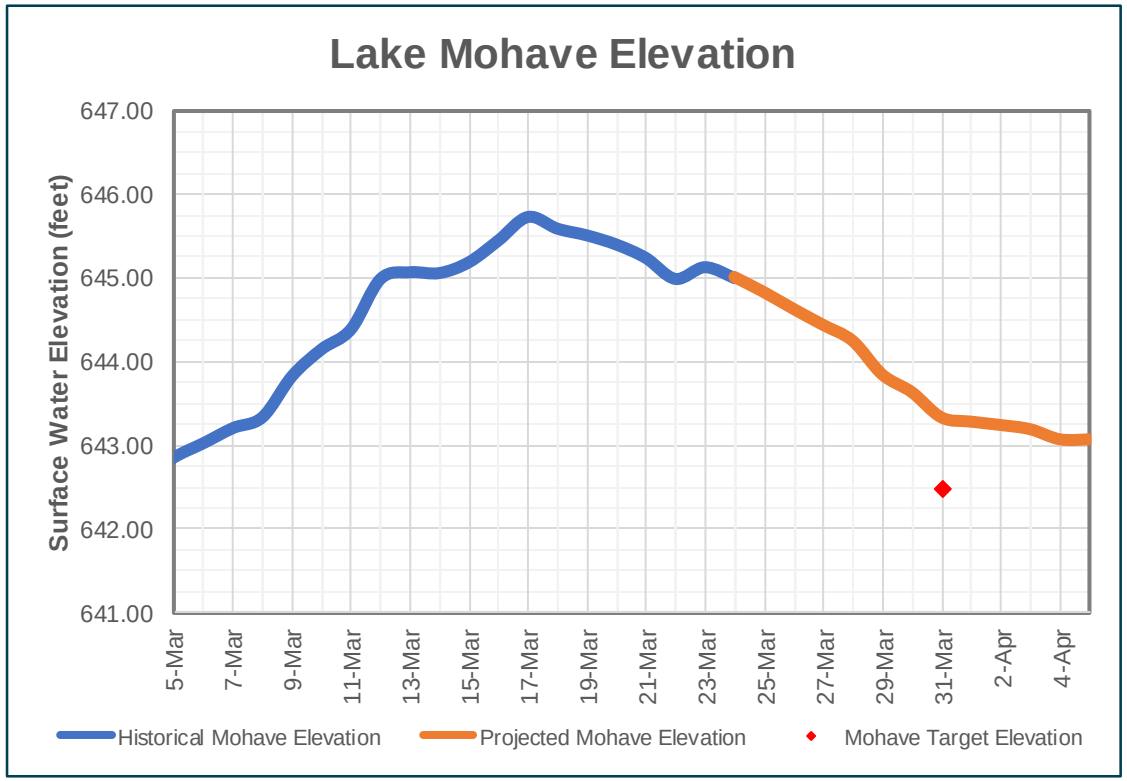
- **Outside value**Value is >1.5 times and <3 times the interquartile range beyond either end of the box

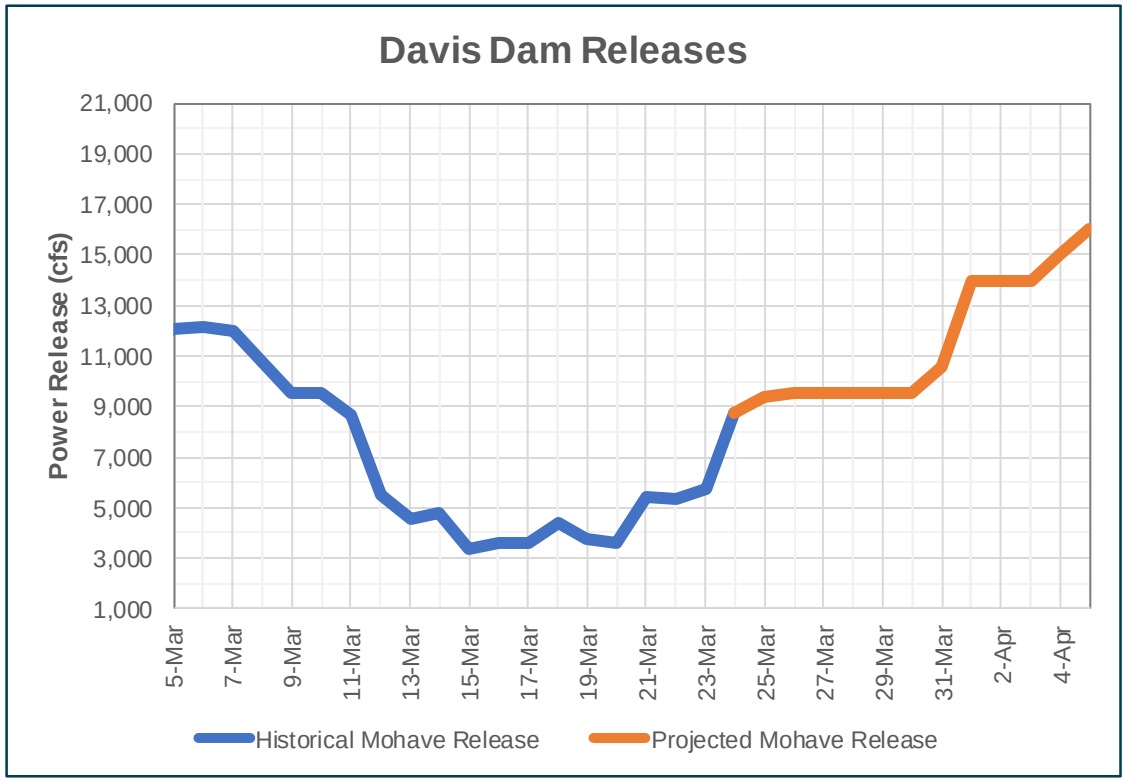
Lake Havasu Conditions



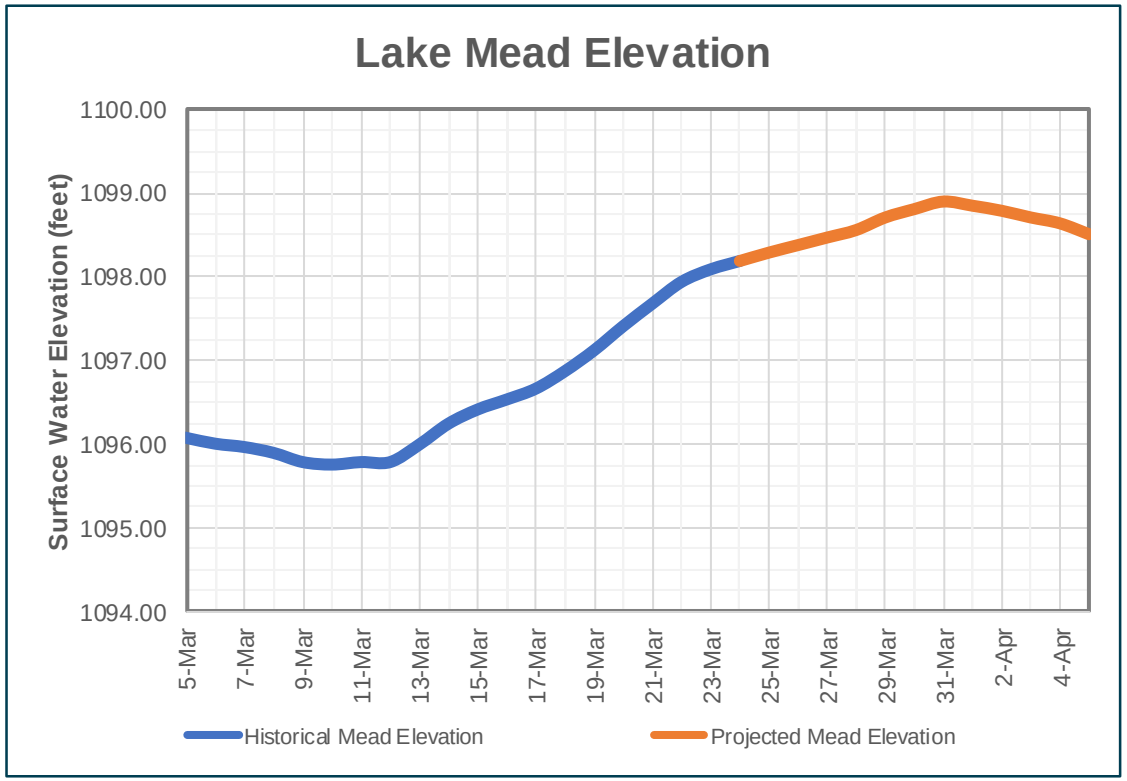


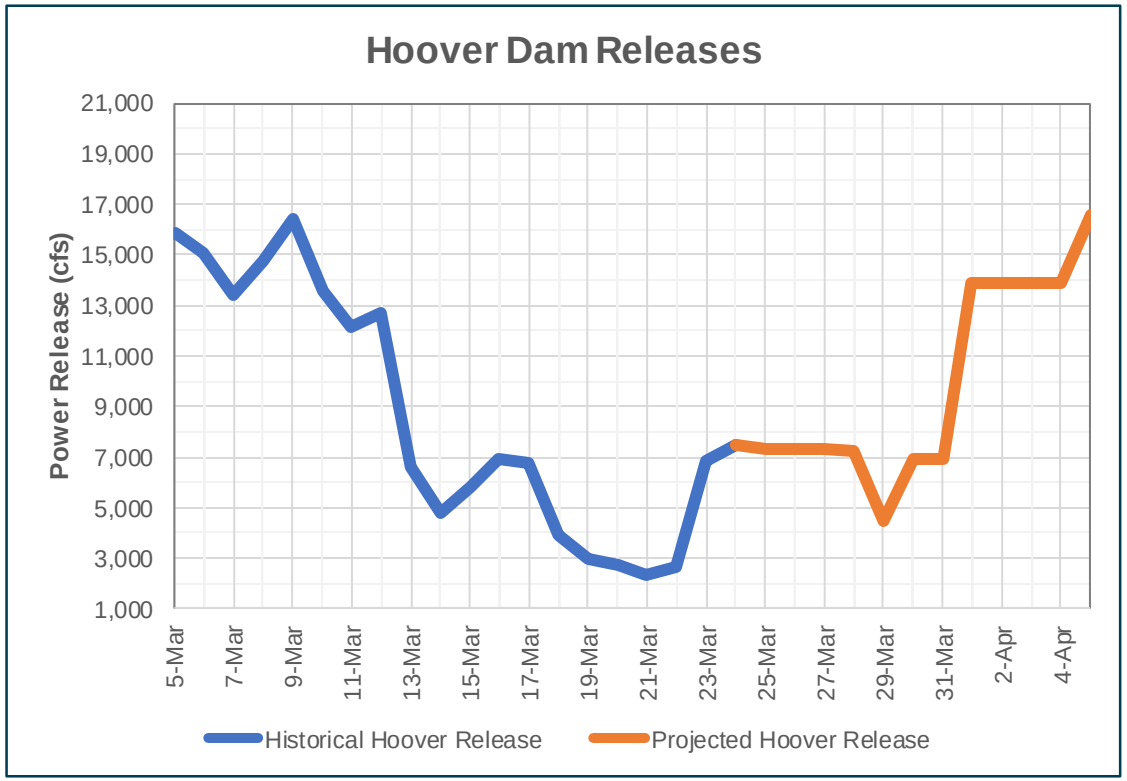
Lake Mohave Conditions





Lake Mead Conditions





Lower Colorado River Basin Operations Update

Projected Lake Mead Operational Tiers

Based on 24-Month Study Inflow Scenarios

Inflow Scenario	CY 2020 Jan 1, 2020 Projection[1]	CY 2021 Jan 1, 2021 Projections
Jan Probable Maximum	Normal - ICS Surplus Condition + Water Savings Contributions[2] Elevation 1,089.40 ft	Normal - ICS Surplus Condition + Water Savings Contributions[2] Elevation 1,086.94 ft
Mar Most Probable		Normal - ICS Surplus Condition + Water Savings Contributions[2] Elevation 1,082.86 ft
Jan Probable Minimum		Normal - ICS Surplus Condition + Water Savings Contributions[2] Elevation 1,081.08 ft

[1]CY 2020 projections and operations were determined with the August 2019 Most Probable 24-Month Study.
[2]Water savings contributions consistent with the 2019 Colorado River Drought Contingency Plans and Section IV of IBWC Minute No. 323.

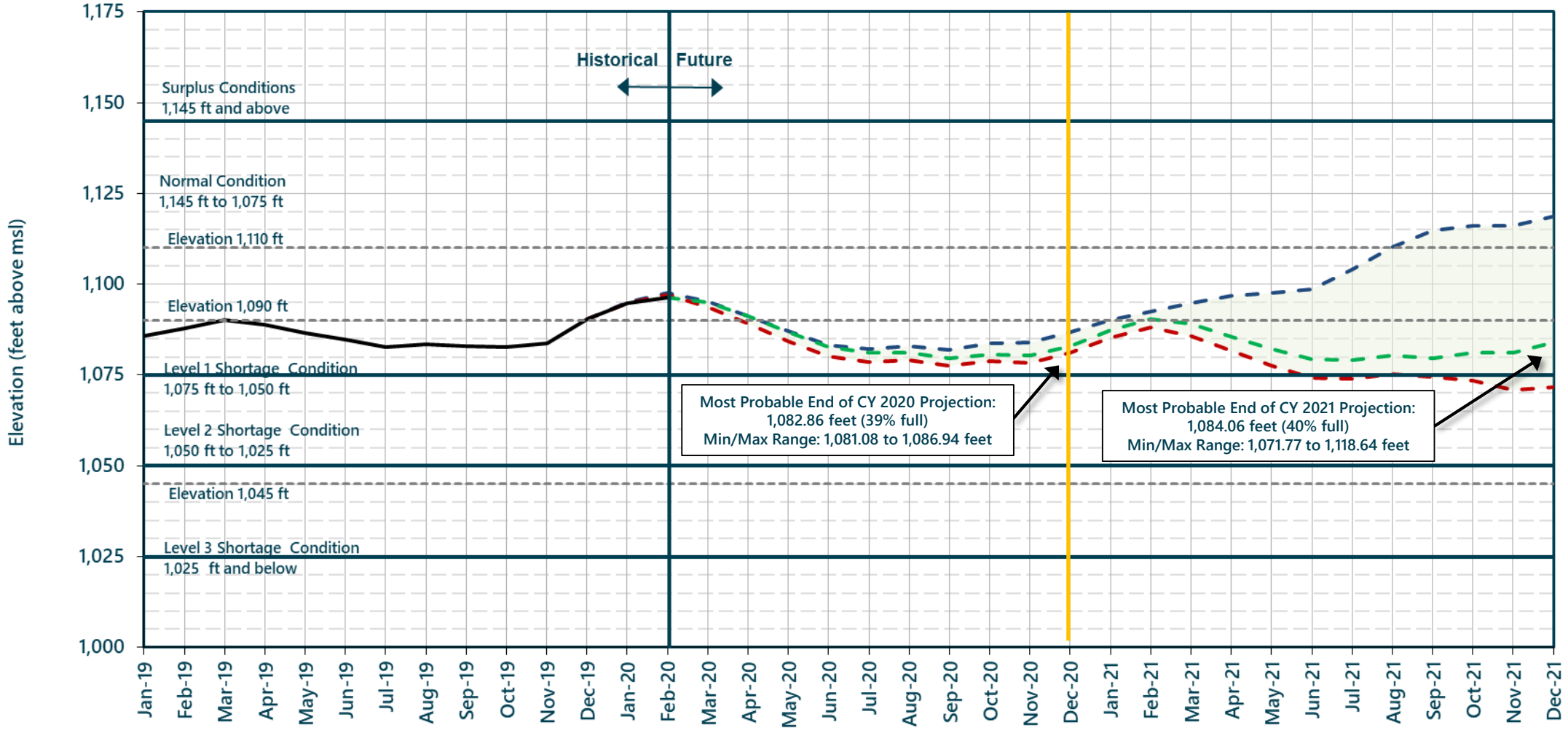
2007 Interim Guidelines, Minute 323, Lower Basin Drought Contingency Plan & Binational Water Scarcity Contingency Plan
Total Volumes (kaf)

Lake Mead Elevation (feet msl)	2007 Interim Guidelines Shortages		Minute 323 Delivery Reductions	Total Combined Reductions	DCP Contributions			Binational Water Scarcity Contingency Plan Savings	Combined Volumes by Country *US: (2007 Interim Guidelines Shortages + DCP Contributions)* *Mexico: (Minute 323 Delivery Reductions + Binational Water Scarcity Contingency Plan Savings)*					Total Combined Volumes
	AZ	NV	Mexico	***Lower Basin States + Mexico***	AZ	NV	CA	Mexico	*AZ Total*	*NV Total*	*CA Total*	*Lower Basin States Total*	*Mexico Total*	***Lower Basin States + Mexico***
1,090 - 1,075	0	0	0	***0***	192	8	0	41	192	8	0	*200*	*41*	***241***
1,075 - 1050	320	13	50	***383***	192	8	0	30	512	21	0	*533*	*80*	***613***
1,050 - 1,045	400	17	70	***487***	192	8	0	34	592	25	0	*617*	*104*	***721***
1,045 - 1,040	400	17	70	***487***	240	10	200	76	640	27	200	*867*	*146*	***1,013***
1,040 - 1,035	400	17	70	***487***	240	10	250	84	640	27	250	*917*	*154*	***1,071***
1,035 - 1,030	400	17	70	***487***	240	10	300	92	640	27	300	*967*	*162*	***1,129***
1,030 - 1,025	400	17	70	***487***	240	10	350	101	640	27	350	*1,017*	*171*	***1,188***
<1,025	480	20	125	***625***	240	10	350	150	720	30	350	*1,100*	*275*	***1,375***

The US will work to create or conserve 100,000 af or more of Colorado River system water on an annual basis to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs. All actions taken by the United States shall be subject to applicable federal law, including availability of appropriations.

Lake Mead End of Month Elevations

Projections from the January and March 2020 24-Month Study Inflow Scenarios



- January 2020 Maximum Probable Inflow with a Lake Powell release of 8.23 maf in WY 2020 and 11.89 maf in WY 2021
- January 2020 Minimum Probable Inflow with a Lake Powell release of 8.23 maf in WY 2020 and 9.00 maf in WY 2021
- March 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

Lower Colorado River Operations

For further information: https://www.usbr.gov/lc/riverops.html

Email: bcoowaterops@usbr.gov

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