

Clark Canyon Reservoir Water Supply and Projected Operation *February 2023*



— BUREAU OF —
RECLAMATION



Watershed Above Clark Canyon Dam

February Operating Range			
Forecast	Minimum	Median	Maximum
Monthly Inflow (kaf)	8.4	10.0	13.0
Monthly Average Release (cfs)	25	25	25
End of Month Content (kaf)	98.7	100.3	103.3



Clark Canyon Reservoir

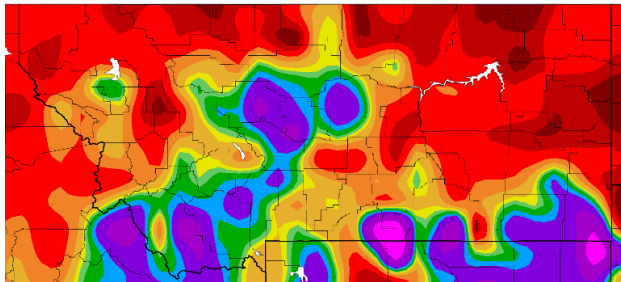
April through July Inflow Forecast	
April - July Volume (kaf)	73,000
Percent of Average (%)	92
Water Year	Historic Inflow
2022	42.6
2021	33.7
2020	58.4
2019	75.1
30 Year Average	79.1

Western Regional Climate Center
January 1- 31 Climate

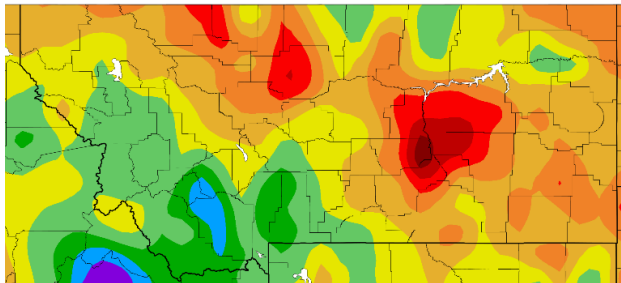
CLIMATE SUMMARY

National Weather Service
February Weather Outlook

Percent of Normal Precipitation (%)



Departure from Normal Temperature
(F)

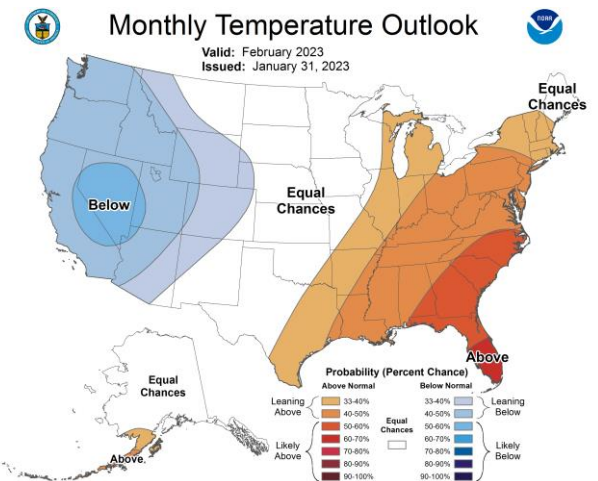
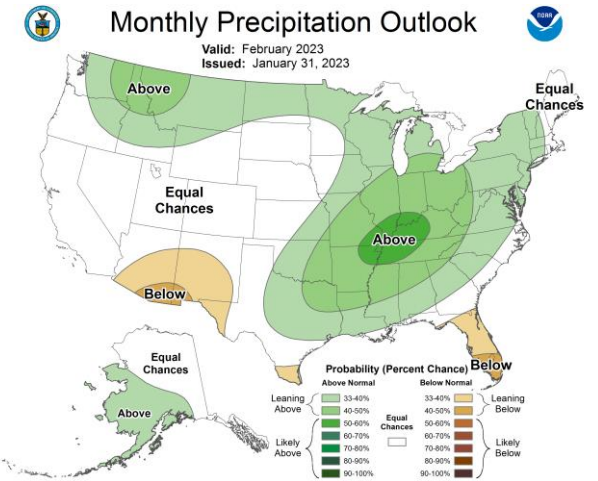
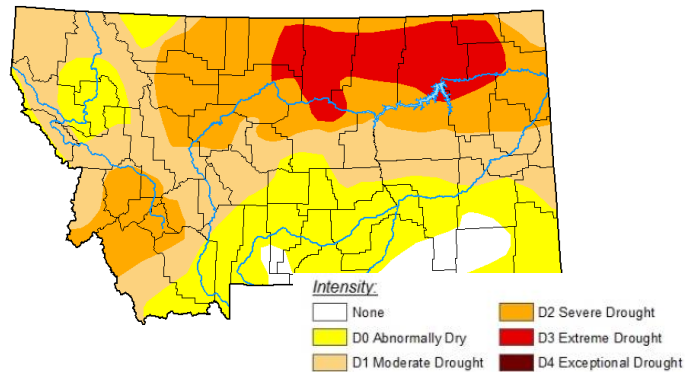


January temperatures were colder than normal in Southwestern Montana while a lot of moisture fell in the basin above Clark Canyon Reservoir.

The one-month outlook forecast, dated January 31, is for a 33-40% chance of above normal precipitation and a 40-50% chance of below normal temperatures during February.

Drought conditions are continuously changing and have improved in the Red Rock basin.

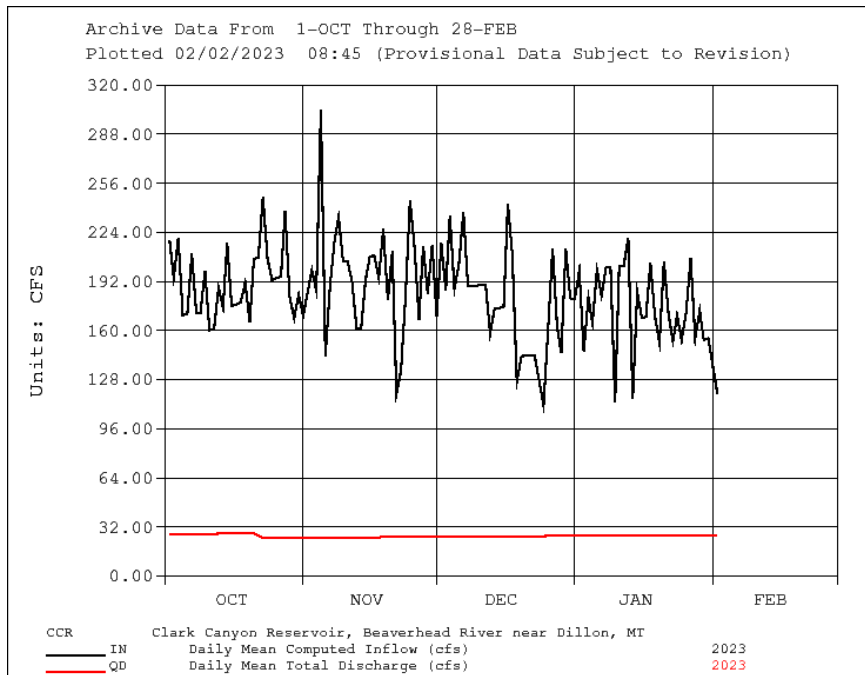
MT Drought Monitor Map
January 31, 2023



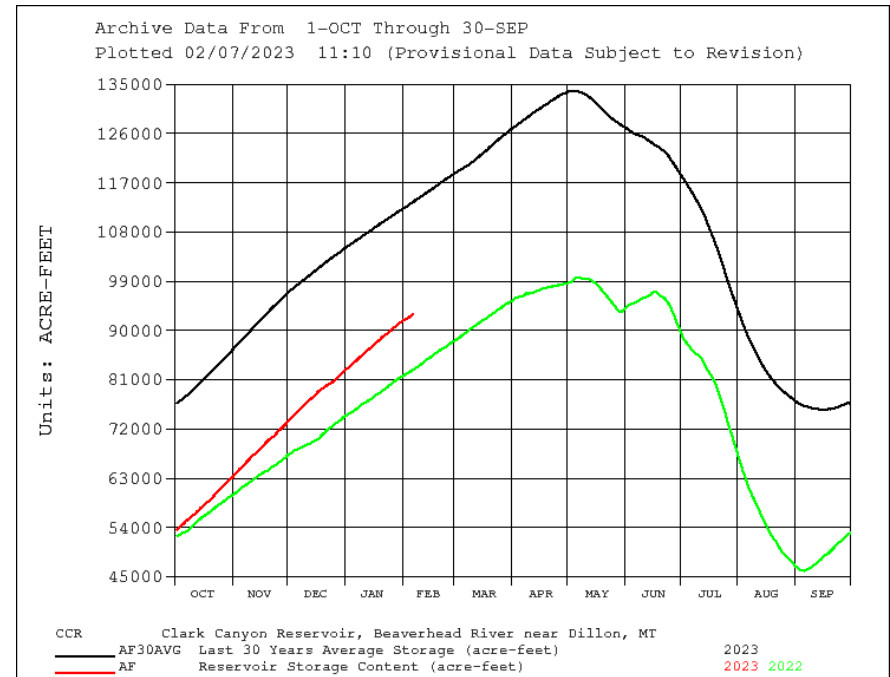
Operations Review

January inflows totaled 10.7 kaf or 82 percent of the 30-year average while releases were 25 cfs. Elevation on February 1, 2023 was 5527.43 feet or 91.1 kaf. The below graphs summarize the inflows, releases, and storage for water year 2023.

Clark Canyon Reservoir Inflow & Releases (cfs)

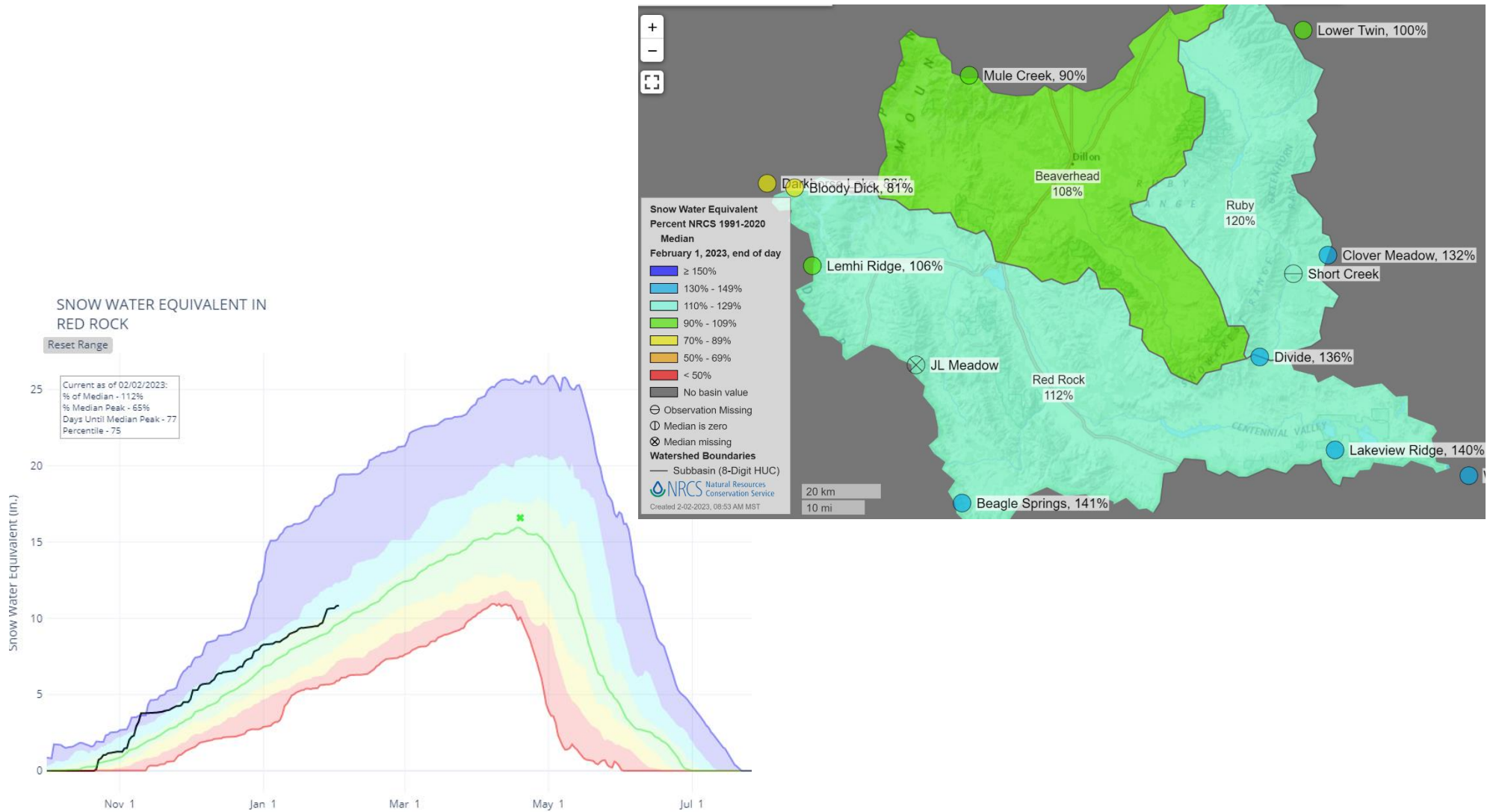


Clark Canyon Reservoir Storage (af)



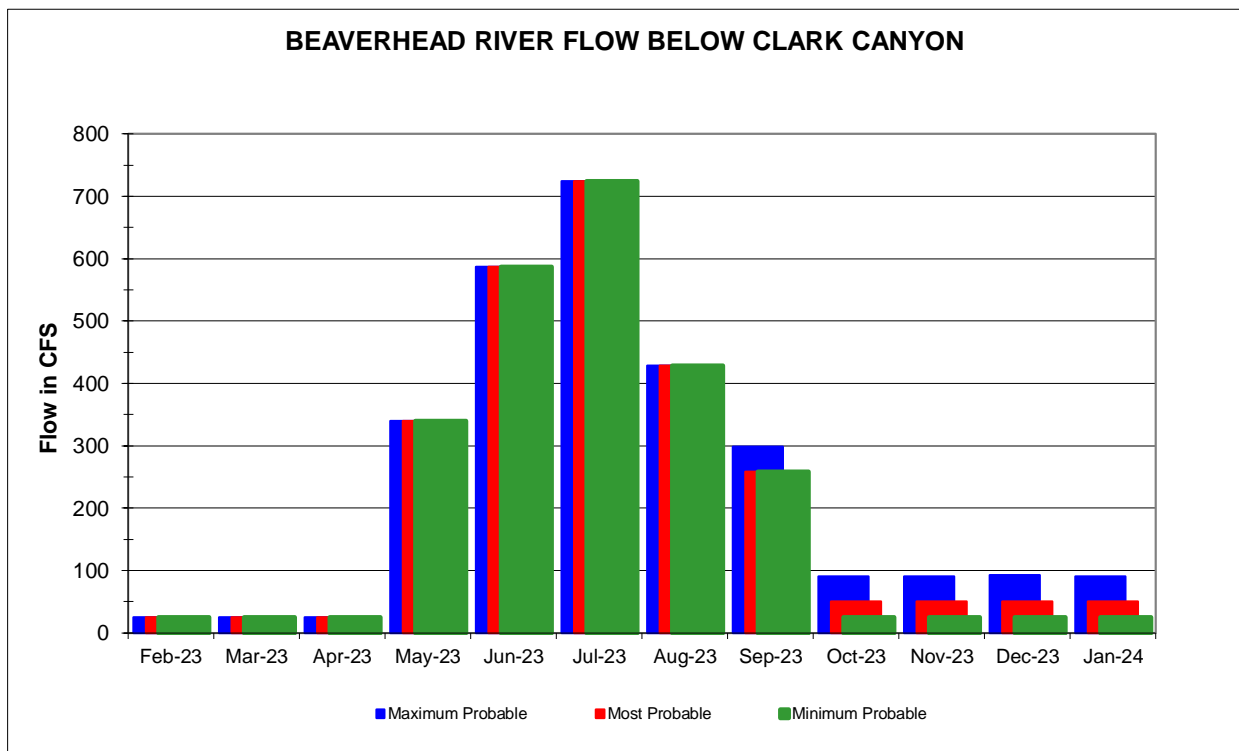
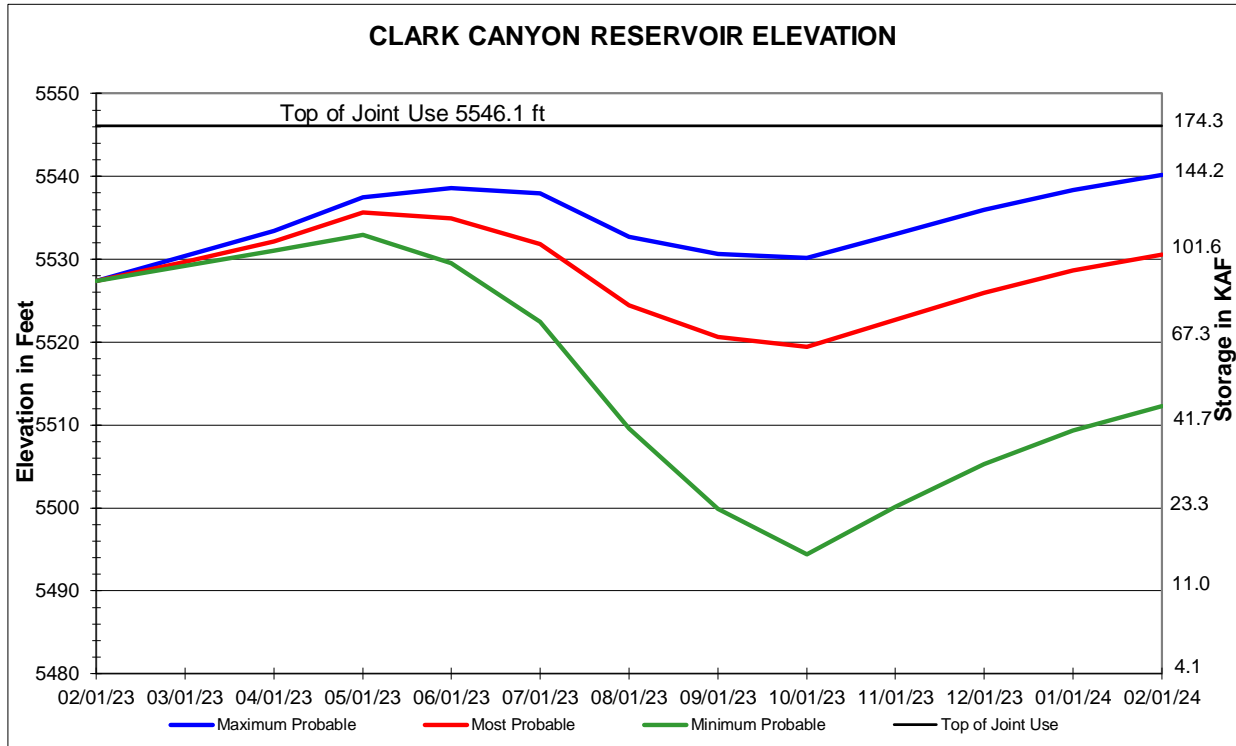
Snowpack & Spring Runoff Forecast

The below Snow Water Equivalent (SWE) graph is a composite of SNOTEL sites that are managed by the NRCS. As of February 2, 2023 the Beaverhead basin SWE is at 108 percent and Red Rock basin SWE is at 112 percent of median. Reclamation used the February 1st SNOTEL, streamflow, and climate data to compute an April through July runoff inflow volume forecast into Clark Canyon Reservoir of 73,000 acre-feet.



Operating Outlook

The graphs below depict a range of possible reservoir elevations and river releases over time for water year 2023. The most probable plan is based upon the April through July forecast and current conditions. The maximum and minimum plans are ranges of possible inflow volumes due to basin variabilities and forecast uncertainties. Water year 2023 simulate full allotments for the 2023 irrigation season.



CLARK CANYON RESERVOIR MONTHLY OPERATIONS

Based on Most Probable Inflow Forecast

Clark Canyon Reservoir		Initial Cont Elev			91.7 kaf 5527.37 ft			Maximum Cont Elev			310.1 kaf 5570.15 ft			Minimum Cont Elev			10.0 kaf 5488.87 ft		
2023		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total					
Monthly Inflow	kaf	10.0	11.5	16.0	18.0	22.0	17.0	14.0	12.0	13.0	14.0	13.0	10.5	171.0					
River Release	cfs	25	25	25	340	587	724	429	259	50	50	50	50						
Gordon Spring Gain	kaf	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	17.9					
End-Month Elevation	ft	5529.66	5532.18	5535.65	5534.97	5531.86	5524.46	5520.60	5519.47	5522.67	5525.94	5528.67	5530.58						
End-Month Content	kaf	100.3	110.3	124.8	121.9	109.0	81.5	69.1	65.7	75.6	86.6	96.5	103.9						
Diversions		2023	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total				
East Bench Demand	kaf	0.00	0.00	0.00	5.80	9.40	11.88	7.23	4.37	0.00	0.00	0.00	0.00	38.68					
East Bench Req Rels	kaf	0.0	0.0	0.0	10.5	17.1	21.6	13.1	7.9	0.0	0.0	0.0	0.0	70.2					
CCWSCOTot Demand	kaf	0.00	0.00	0.00	15.60	25.27	31.92	19.44	11.75	0.00	0.00	0.00	0.00	103.98					
CCWSCODeliv	kaf	0.0	0.0	0.0	9.8	15.9	20.1	12.2	7.4	0.0	0.0	0.0	0.0	65.4					
Non-proj Demand	kaf	0.00	0.00	0.00	3.33	5.39	6.81	4.15	2.51	0.00	0.00	0.00	0.00	22.19					

Based on Minimum Probable Inflow Forecast

2023		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total	
Monthly Inflow	kaf	8.4	8.5	9.1	7.3	10.0	10.6	8.6	8.0	9.3	10.2	9.6	8.0	107.6	
River Release	cfs	25	25	25	340	587	724	429	259	25	25	25	25		
Gordon Spring Gain	kaf	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	17.9	
End-Month Elevation	ft	5529.25	5531.03	5532.91	5529.51	5522.43	5509.61	5499.87	5494.38	5500.13	5505.26	5509.33	5512.26		
End-Month Content	kaf	98.7	105.7	113.3	99.7	74.8	40.9	23.1	15.7	23.5	32.2	40.3	46.8		
Diversions		2023	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
East Bench Demand	kaf	0.00	0.00	0.00	5.80	9.40	11.88	7.23	4.37	0.00	0.00	0.00	0.00	38.68	
East Bench Req Rels	kaf	0.0	0.0	0.0	10.5	17.1	21.6	13.1	7.9	0.0	0.0	0.0	0.0	70.2	
CCWSCOTot Demand	kaf	0.00	0.00	0.00	15.60	25.27	31.92	19.44	11.75	0.00	0.00	0.00	0.00	103.98	
CCWSCODeliv	kaf	0.0	0.0	0.0	9.8	15.9	20.1	12.2	7.4	0.0	0.0	0.0	0.0	65.4	
Non-proj Demand	kaf	0.00	0.00	0.00	3.33	5.39	6.81	4.15	2.51	0.00	0.00	0.00	0.00	22.19	

Based on Maximum Probable Inflow Forecast

2023		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total	
Monthly Inflow	kaf	13.0	13.5	19.0	26.0	32.0	22.0	18.0	16.0	17.0	18.0	16.0	14.0	224.5	
River Release	cfs	25	25	25	340	587	724	429	299	91	91	93	91		
Gordon Spring Gain	kaf	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	17.9	
End-Month Elevation	ft	5530.43	5533.40	5537.48	5538.62	5537.98	5532.72	5530.63	5530.17	5533.01	5536.00	5538.34	5540.17		
End-Month Content	kaf	103.3	115.3	132.8	137.9	135.0	112.5	104.1	102.3	113.7	126.3	136.6	145.0		
Diversions		2023	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
East Bench Demand	kaf	0.00	0.00	0.00	5.80	9.40	11.88	7.23	4.37	0.00	0.00	0.00	0.00	38.68	
East Bench Req Rels	kaf	0.0	0.0	0.0	10.5	17.1	21.6	13.1	7.9	0.0	0.0	0.0	0.0	70.2	
CCWSCOTot Demand	kaf	0.00	0.00	0.00	15.60	25.27	31.92	19.44	11.75	0.00	0.00	0.00	0.00	103.98	
CCWSCODeliv	kaf	0.0	0.0	0.0	9.8	15.9	20.1	12.2	7.4	0.0	0.0	0.0	0.0	65.4	
Non-proj Demand	kaf	0.00	0.00	0.00	3.33	5.39	6.81	4.15	2.51	0.00	0.00	0.00	0.00	22.19	

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