

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



— BUREAU OF —
RECLAMATION



Watershed Above Clark Canyon Dam

May Operating Range

Forecast	Minimum	Median	Maximum
Monthly Inflow (kaf)	8.7	17.1	27.9
Monthly Average Release (cfs)	340	340	340
End of Month Content (kaf)	107.2	115.6	126.4



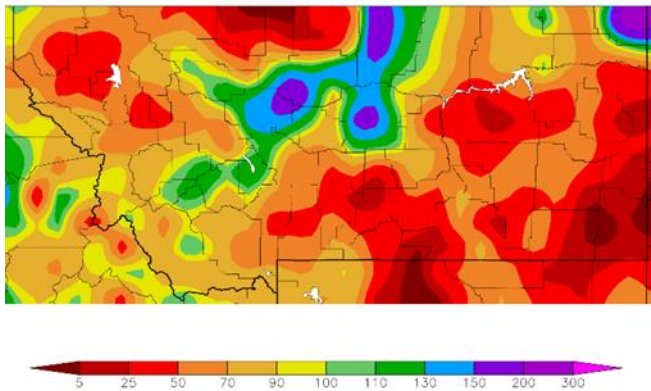
Clark Canyon Reservoir

May through July Inflow Forecast

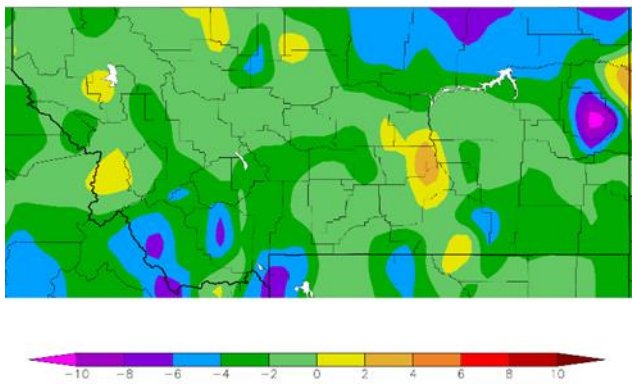
May - July Volume (kaf)		65,000
Percent of Average (%)		102
Water Year		Historic Inflow
2022		37.8
2021		27.2
2020		43.8
2019		49.9
30 Year Average		63.9

Western Regional Climate Center April 1- 30 Climate

Percent of Normal Precipitation



Departure from Normal Temperature (F)



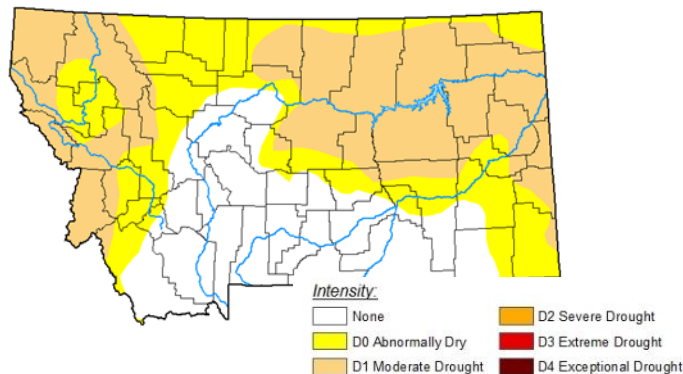
CLIMATE SUMMARY

April temperatures were much colder across all of Montana while most of the Basin above Clark Canyon Reservoir was drier than normal.

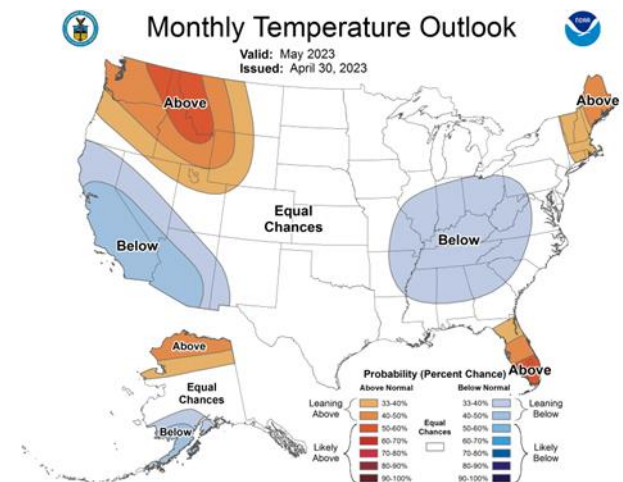
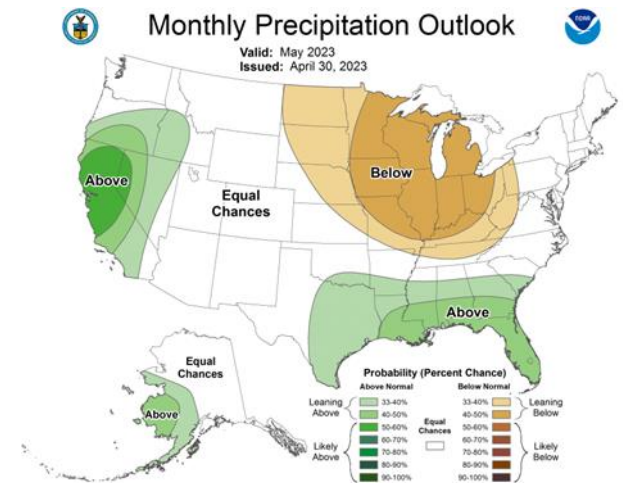
The one-month outlook forecast, dated April 30, is for equal chance of above, below, or normal precipitation and a 50-60% chance of above normal temperatures during May.

There is no drought status in the basin above Clark Canyon Reservoir.

MT Drought Monitor Map April 25, 2023



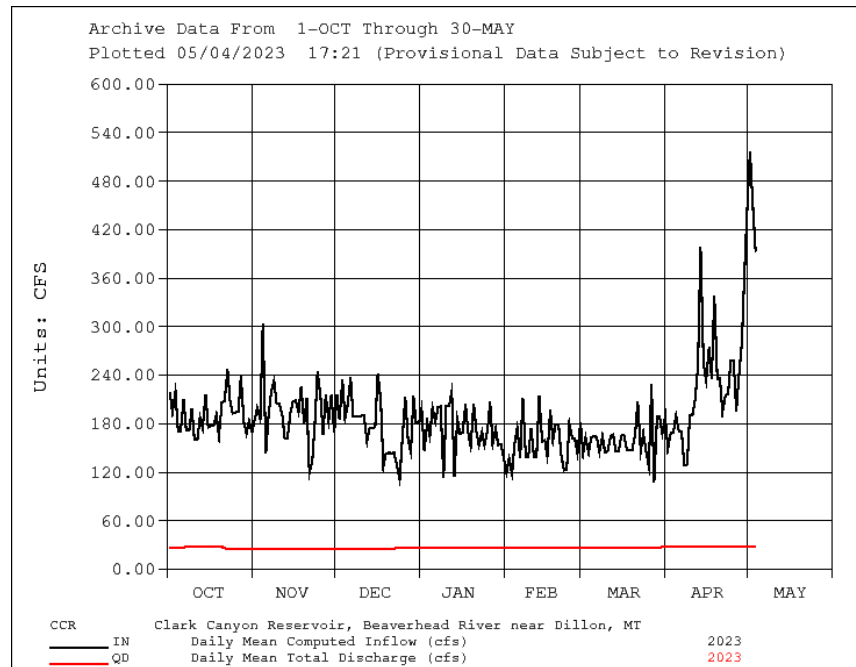
National Weather Service May Weather Outlook



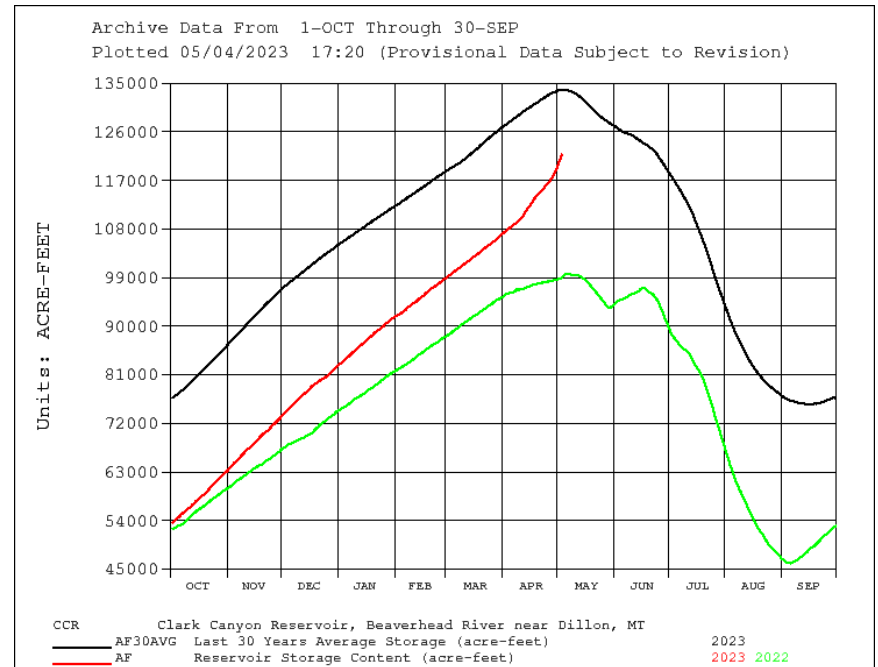
Operations Review

April inflows totaled 13.9 kaf or 92 percent of the 30-year average while releases were 27 cfs. Elevation on May 1, 2023 was 5534.37 feet or 119.3 kaf. The below graphs summarize the inflows, releases, and storage for water year 2023.

Clark Canyon Reservoir Inflow & Releases (cfs)

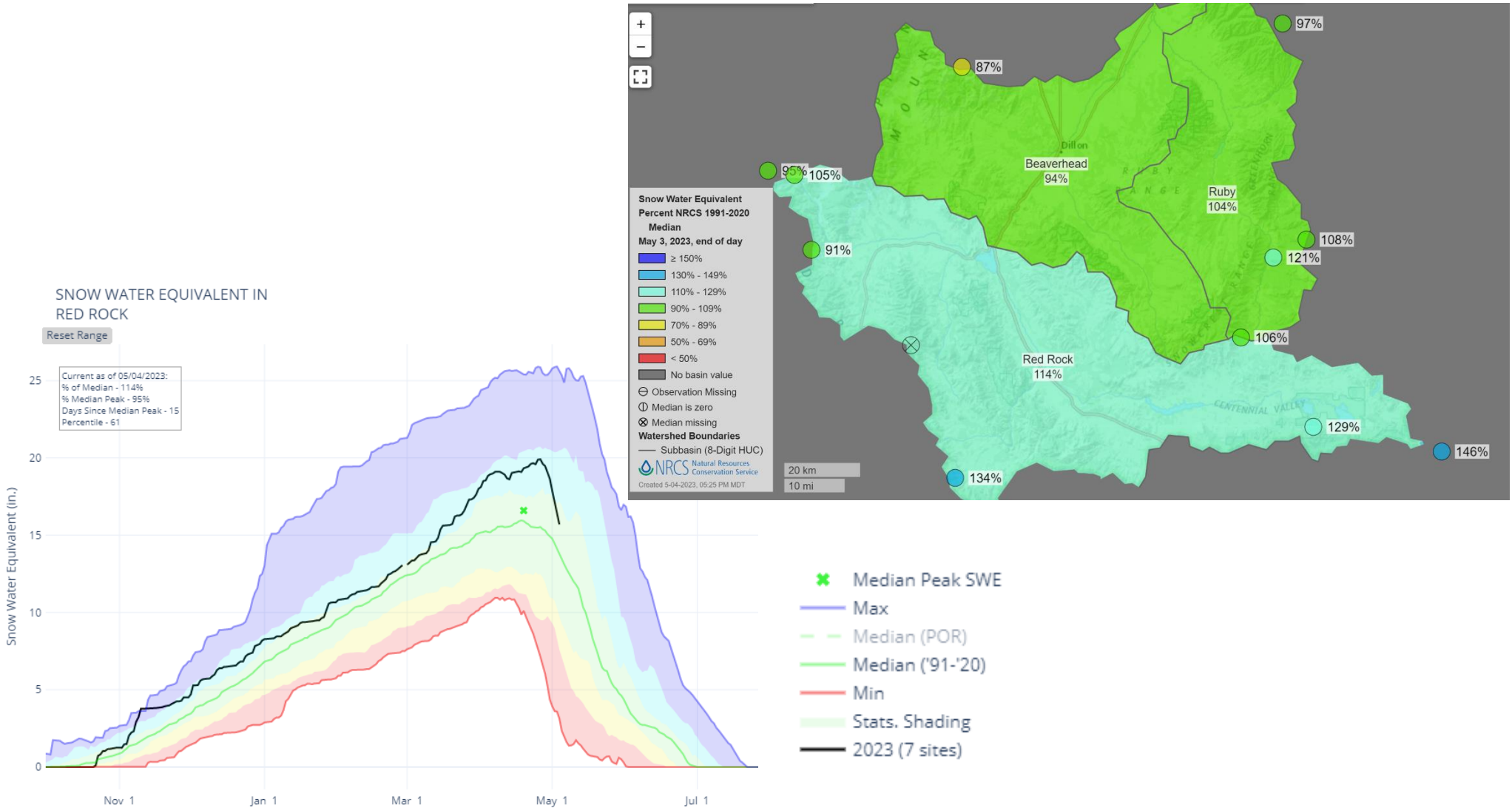


Clark Canyon Reservoir Storage (af)



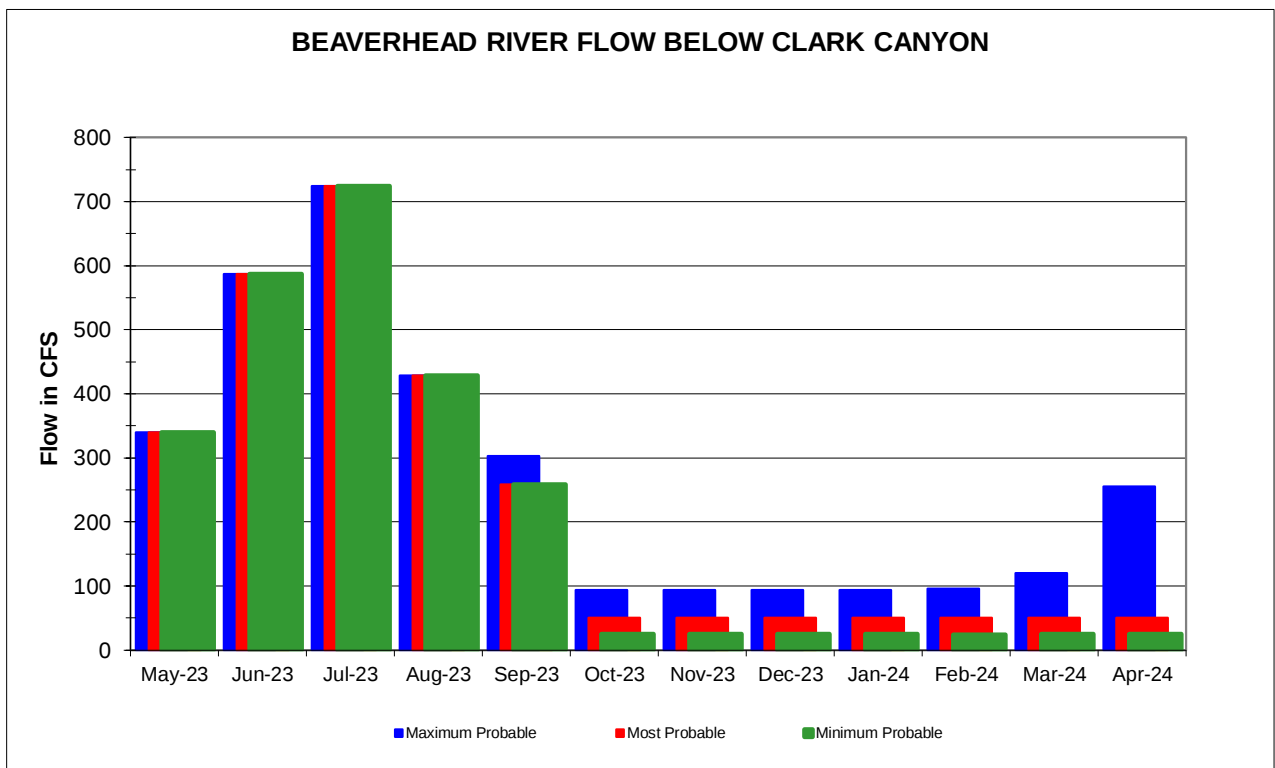
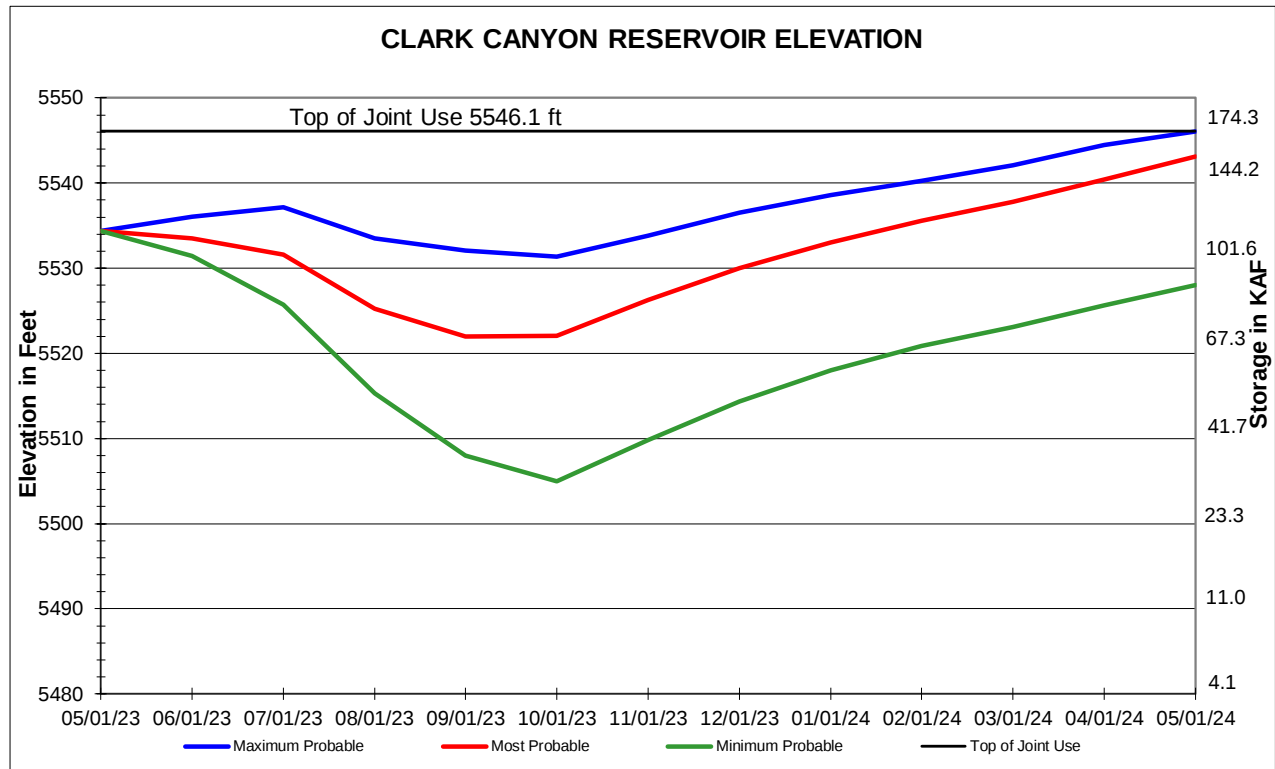
Snowpack & Spring Runoff Forecast

The below Snow Water Equivalent (SWE) graph is a composite of SNOTEL sites that are managed by the NRCS. As of May 3, 2023 the Beaverhead basin SWE is at 94 percent and Red Rock basin SWE is at 114 percent of median. The May through July runoff inflow volume forecast into Clark Canyon Reservoir is 65,000 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 May 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		119.4 kaf 5534.38 ft		Maximum Cont Elev		310.1 kaf 5570.15 ft		Minimum Cont Elev		10.0 kaf 5488.87 ft		
	2023	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Monthly Inflow	kaf	17.1	27.2	20.8	15.5	15.8	17.3	16.6	15.5	13.6	12.6	15.3	15.9	203.2
River Release	cfs	340	587	724	429	259	50	50	50	50	50	50	50	
Spring Gain	kaf	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.5	17.9
End-Month Elevation	ft	5533.47	5531.58	5525.25	5521.95	5522.08	5526.31	5529.97	5533.06	5535.56	5537.78	5540.45	5543.13	
End-Month Content	kaf	115.6	107.9	84.2	73.3	73.7	87.9	101.5	113.9	124.4	134.1	146.3	159.2	
Diversions														
	2023	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
East Bench Demand	kaf	5.80	9.40	11.88	7.23	4.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.68
East Bench Req Rels	kaf	10.5	17.1	21.6	13.1	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.2
CCWSCO Tot Demand	kaf	15.60	25.27	31.92	19.44	11.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	103.98
CCWSCO Deliv	kaf	9.8	15.9	20.1	12.2	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.4
Non-proj Demand	kaf	3.33	5.39	6.81	4.15	2.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.19

Based on Minimum Probable Inflow Forecast

	2023	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Monthly Inflow	kaf	8.7	13.5	12.9	9.7	9.6	11.1	12.0	11.2	10.0	8.4	10.0	10.0	127.1
River Release	cfs	340	587	724	429	259	25	25	25	25	24	25	25	
Spring Gain	kaf	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	18.0
End-Month Elevation	ft	5531.41	5525.71	5515.29	5507.98	5504.99	5509.80	5514.34	5518.01	5520.90	5523.11	5525.63	5528.00	
End-Month Content	kaf	107.2	85.8	54.2	37.5	31.7	41.3	51.8	61.5	70.0	77.0	85.5	94.0	
Diversions														
	2023	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
East Bench Demand	kaf	5.80	9.40	11.88	7.23	4.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.68
East Bench Req Rels	kaf	10.5	17.1	21.6	13.1	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.2
CCWSCO Tot Demand	kaf	15.60	25.27	31.92	19.44	11.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	103.98
CCWSCO Deliv	kaf	9.8	15.9	20.1	12.2	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.4
Non-proj Demand	kaf	3.33	5.39	6.81	4.15	2.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.19

Based on Maximum Probable Inflow Forecast

	2023	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Monthly Inflow	kaf	27.9	39.7	29.0	20.7	15.0	16.0	17.0	15.0	13.5	14.0	19.5	23.4	250.7
River Release	cfs	340	587	724	429	303	94	94	94	94	96	120	255	
Spring Gain	kaf	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	18.0
End-Month Elevation	ft	5536.02	5537.12	5533.49	5532.10	5531.36	5533.85	5536.53	5538.60	5540.28	5542.07	5544.50	5546.10	
End-Month Content	kaf	126.4	131.2	115.7	110.0	107.0	117.2	128.6	137.8	145.5	154.0	166.1	174.3	
Diversions														
	2023	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
East Bench Demand	kaf	5.80	9.40	11.88	7.23	4.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.68
East Bench Req Rels	kaf	10.5	17.1	21.6	13.1	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.2
CCWSCO Tot Demand	kaf	15.60	25.27	31.92	19.44	11.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	103.98
CCWSCO Deliv	kaf	9.8	15.9	20.1	12.2	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.4
Non-proj Demand	kaf	3.33	5.39	6.81	4.15	2.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.19

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