

# RECLAMATION

*Managing Water in the West*

May 4, 2009

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans as prepared on May 4, 2009. If you have any questions or concerns, please call me at (406) 247-7334.

Chuck Heinje  
Reservoir and River Operations



U. S. Department of the Interior  
Bureau of Reclamation  
Montana Area Office  
River and Reservoir Operations

# CLARK CANYON RESERVOIR OPERATIONS

## Water Supply Forecasts and Reservoir Operations May 4, 2009

Reservoir	Elevation	Storage(kaf)	% Average	% Full
Lima Reservoir:	6577.57	62,200	110	74
Clark Canyon Reservoir:	5540.70	147,300	93	85

### Actual Inflows (1,000 Acre-Feet):

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
April-July, 2007	40.2	36
April-July, 2008	52.9	47
August	11.0	57
September	14.9	74
October	15.0	65
November	12.5	56
December	11.5	60
January	11.5	72
February	14.0	96
March	12.7	68
April	20.0	92

### May 1 Forecast of May-July Inflow (1,000 Acre-Feet):

<u>Agency</u>	<u>Inflow</u>	<u>Percent of Normal</u>
USBR	79.5	88
NRCS	73.0	80
Corps	N.A.	N.A.
Average	76.3	84

Based on Mountain Data from NRCS SNOTEL Sites  
As of FRIDAY: MAY 1 , 2009

BASIN Data Site Name	ELEV. (Ft)	SNOW WATER EQUIVALENT			TOTAL PRECIPITATION		
		Current	Average	Avg %	Current	Average	Avg %

#### JEFFERSON RIVER BASIN

ALBRO LAKE	8300	27.2	23.4	116	30.5	25.8	118
BARKER LAKES	8250	22.7	16.3	139	26.2	20.4	128
BASIN CREEK	7180	9.6	10.1	95	15.6	12.1	129

BEAGLE SPRINGS	8850	12.7	9.5	134	16.5	13.8	120
BLOODY DICK	7600	15.4	11.2	138	21.3	18.2	117
CALVERT CREEK	6430	5.9	2.6	227	12.6	12.1	104
CLOVER MEADOW	8600	20.5	19.6	105	22.6	22.0	103
DARKHORSE LAKE	8600	37.7	35.4	106	35.9	35.8	100
DIVIDE	7800	13.0	12.1	107	16.1	15.1	107
FROHNER MEADOW	6480	10.2	6.6	155	16.4	13.4	122
LAKEVIEW RIDGE	7400	12.9	9.0	143	20.0	17.1	117
LEMHI RIDGE	8100	16.4	11.0	149	20.1	17.1	118
LOWER TWIN	7900	23.8	21.4	111	29.5	25.3	117
MOOSE CREEK	6200	15.4	14.4	107	25.4	22.5	113
MULE CREEK	8300	20.7	17.1	121	21.9	19.1	115
ROCKER PEAK	8000	20.4	16.6	123	23.0	18.6	124
SADDLE MTN.	7940	26.9	26.6	101	28.6	30.8	93
SHORT CREEK	7000	6.3	4.8	131	10.6	9.0	118
WHITE ELEPHANT	7710	26.4	27.9	95	31.2	34.4	91
				-----			-----
		Basin wide percent of average		116			111

**Clark Canyon Reservoir**

**Based on Most Probable Inflow Forecast Allotments CCWSC- 4.0, EB- 3.1**

	2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Clark Canyon Reservoir		Initial Cont: 147.3 kaf			Minimum Cont: 10.0 kaf			Maximum Cont: 310.1 kaf						
		Elev: 5540.69 ft			Elev: 5489.22 ft			Elev: 5569.57 ft						
Hydrology	2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Monthly Inflow	kaf	20.7	31.4	24.2	17.8	18.5	19.7	20.7	19.2	16.2	15.1	18.5	20.0	242.0
Evaporation Loss	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
River Release	kaf	24.7	37.3	49.2	32.7	8.2	8.3	8.2	8.3	8.3	7.6	13.3	15.7	221.8
River Release	cfs	402	627	800	532	138	135	138	135	135	137	216	264	
Min Release	cfs	100	100	100	100	100	100	100	100	100	100	100	100	
Excess Release	kaf	0.0	0.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	7.2	7.0	
Gordon 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	
End-Month Elevation	ft	5539.86	5538.61	5532.95	5529.21	5531.83	5534.56	5537.38	5539.71	5541.35	5542.87	5543.91	5544.76	
End-Month Content	kaf	143.3	137.4	112.4	97.5	107.8	119.2	131.7	142.6	150.5	158.0	163.2	167.5	
Net Change Content	kaf	-4.0	-5.9	-25.0	-14.9	10.3	11.4	12.5	10.9	7.9	7.5	5.2	4.3	20.2
Diversions	2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
East Bench Demand	kaf	8.1	10.2	13.8	5.8	0.8								38.7
East Bench Req Rels	kaf	14.7	18.6	25.1	10.5	1.4								70.3
East Bench Div	kaf	14.7	18.6	25.1	10.5	1.4								70.3
East Bench Short	kaf													
CCWSC Tot Demand	kaf	15.8	23.4	28.9	25.3	4.9							16.2	114.5
CCWSC Req Rels	kaf	10.0	15.7	19.4	15.9	3.1							10.2	74.3
CCWSC Div	kaf	10.0	15.7	19.4	15.9	3.1							10.2	74.3
CCWSC Shortage	kaf													
Non-proj Demand	kaf	2.4	6.7	6.0	8.9	4.4								28.4

**Clark Canyon Reservoir**

**Based on Min Probable Inflow Forecast Allotments CCWSC- 4.0, EB-3.1**

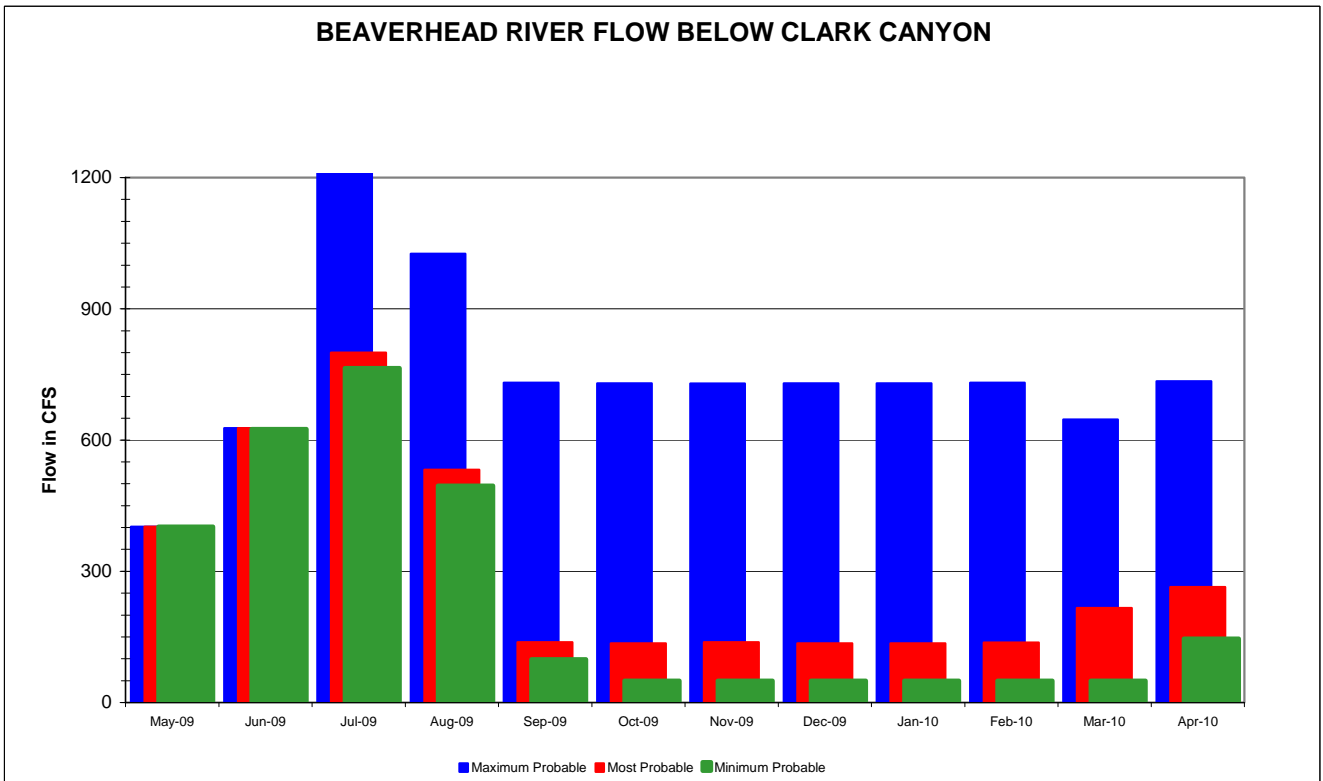
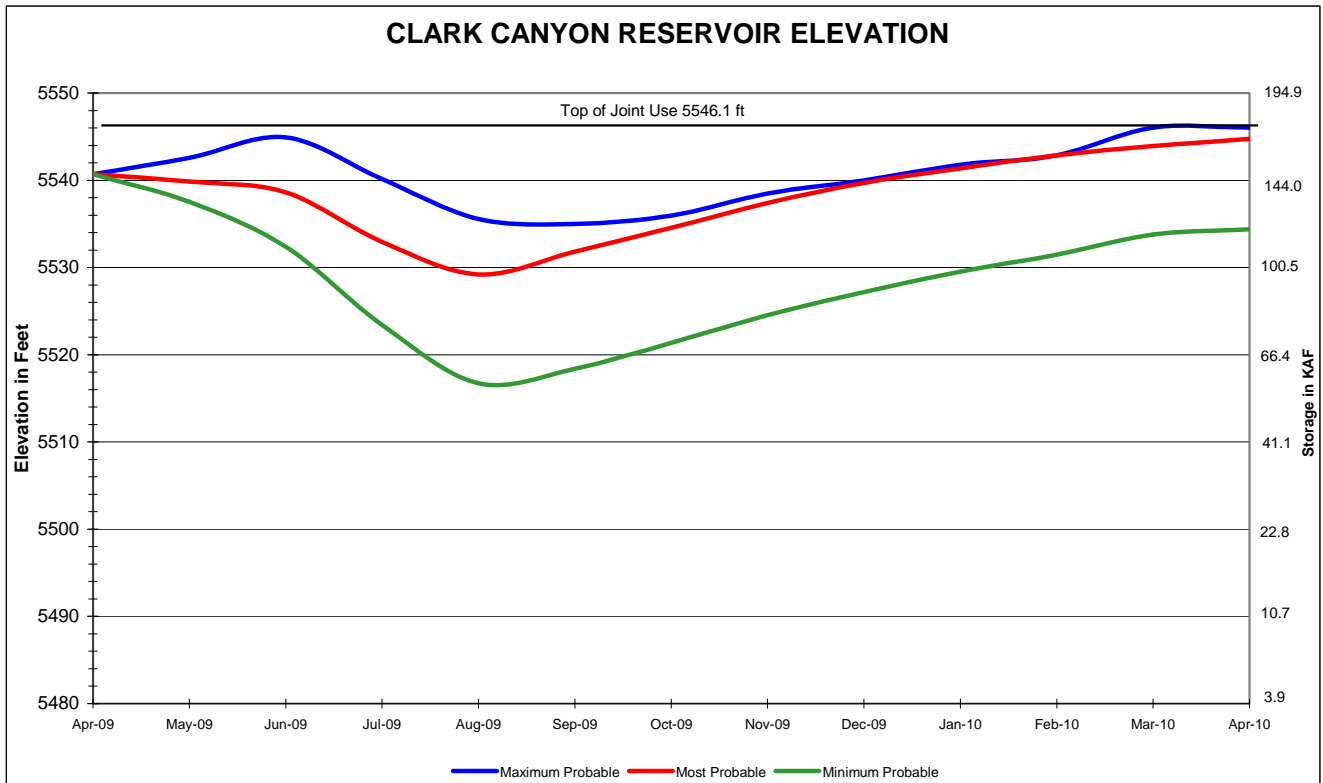
	2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total			
Clark Canyon Reservoir		Initial Cont: 147.3 kaf			Minimum Cont: 10.0 kaf			Maximum Cont: 310.1 kaf			Elev: 5540.69 ft			Elev: 5489.22 ft		Elev: 5569.57 ft	
Hydrology	2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total			
Monthly Inflow	kaf	9.7	14.9	14.1	10.6	10.5	11.9	13.2	12.3	11.8	10.5	12.6	11.3	143.4			
Evaporation Loss	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
River Release	kaf	24.7	37.2	47.0	30.5	5.9	3.1	3.0	3.1	3.1	2.8	3.1	8.7	172.2			
River Release	cfs	402	625	764	496	99	50	50	50	50	50	50	146				
Min Release	cfs	50	50	50	50	50	50	50	50	50	50	50	50				
Excess Release	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Gordon 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				
End-Month Elevation	ft	5537.51	5532.37	5523.43	5516.72	5518.40	5521.38	5524.54	5527.19	5529.52	5531.48	5533.79	5534.40				
End-Month Content	kaf	132.3	110.0	77.1	57.2	61.8	70.6	80.8	90.0	98.7	106.4	115.9	118.5				
Net Change Content	kaf	-15.0	-22.3	-32.9	-19.9	4.6	8.8	10.2	9.2	8.7	7.7	9.5	2.6	-28.8			
Diversions	2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total			
East Bench Demand	kaf	8.1	10.2	13.8	5.8	0.8								38.7			
East Bench Req Rels	kaf	14.7	18.5	25.1	10.5	1.5								70.3			
East Bench Div	kaf	14.7	18.5	25.1	10.5	1.5								70.3			
East Bench Short	kaf																
CCWSC Tot Demand	kaf	15.8	23.4	28.9	25.3	4.9							16.2	114.5			
CCWSC Req Rels	kaf	10.0	15.7	19.4	15.9	3.1							10.2	74.3			
CCWSC Div	kaf	10.0	15.7	19.4	15.9	3.1							10.2	74.3			
CCWSC Shortage	kaf																
Non-proj Demand	kaf	2.4	6.7	6.0	8.9	4.4								28.4			

**Clark Canyon Reservoir**

**Based on Max Probable Inflow Forecast- Allotment CCWSC- 4.0, EB- 3.1**

	2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Clark Canyon Reservoir		Initial Cont: 147.3 kaf				Minimum Cont: 10.0 kaf				Maximum Cont: 310.1 kaf				
		Elev: 5540.69 ft				Elev: 5489.22 ft				Elev: 5569.57 ft				
Hydrology	2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Monthly Inflow	kaf	34.0	49.0	56.0	42.0	41.0	49.0	55.0	52.0	53.6	46.0	55.8	43.7	577.1
Evaporation Loss	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
River Release	kaf	24.7	37.3	79.6	63.1	43.5	44.9	43.4	44.9	44.9	40.6	39.8	43.7	550.4
River Release	cfs	402	627	1295	1026	731	730	729	730	730	731	647	734	
Min Release	cfs	200	200	200	200	200	200	200	200	200	200	200	100	
Excess Release	kaf	0.0	0.0	32.6	32.6	31.6	32.6	31.5	32.6	32.6	29.5	27.5	35.0	
Gordon 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	
End-Month Elevation	ft	5542.59	5544.91	5540.15	5535.57	5535.00	5535.94	5538.49	5539.99	5541.78	5542.87	5546.03	5546.03	
End-Month Content	kaf	156.6	168.3	144.7	123.6	121.1	125.2	136.8	143.9	152.6	158.0	174.0	174.0	
Net Change Content	kaf	9.3	11.7	-23.6	-21.1	-2.5	4.1	11.6	7.1	8.7	5.4	16.0	0.0	26.7
Diversions	2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
East Bench Demand	kaf	8.1	10.2	13.8	5.8	0.8								38.7
East Bench Req Rels	kaf	14.7	18.6	25.1	10.5	1.4								70.3
East Bench Div	kaf	14.7	18.6	25.1	10.5	1.4								70.3
East Bench Short	kaf													
CCWSC Tot Demand	kaf	15.8	23.4	28.9	25.3	4.9							16.2	114.5
CCWSC Req Rels	kaf	10.0	15.7	19.4	15.9	3.1							10.2	74.3
CCWSC Div	kaf	10.0	15.7	19.4	15.9	3.1							10.2	74.3
CCWSC Shortage	kaf													
Non-proj Demand	kaf	2.4	6.7	6.0	8.9	4.4								28.4

# CLARK CANYON RESERVOIR



WATER YEAR 2009

# Snowpack above Clark Canyon

