

RECLAMATION

Managing Water in the West

December 4, 2008

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans as prepared on December 4, 2008. 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

MILK RIVER PROJECT OPERATIONS

Water Supply Forecasts and Reservoir Operations December 1, 2008

Storage (acre-feet):

		% Normal	% Full
Sherburne Reservoir:	43,823	322	66
Fresno Reservoir:	56,315	145	61
Nelson Reservoir (active):	61,073	105	77

Past Inflows: (1,000 acre-feet):

Month	Sherburne Reservoir		Fresno Reservoir	
	Inflow	% Normal	Inflow	% Normal
<i>April-Jul, 2008</i>	<i>115.8</i>	<i>111</i>	<i>176.2</i>	<i>107</i>
October	4.2	59	1.2	21
November	4.1	77	0.5	24

December Forecast of Natural Inflow (1,000 acre-feet):

Lake Sherburne

	Inflow	% Average
Reclamation	3.5	92
NRCS	n/a	n/a
Average	3.5	92

St. Mary River at Boundary	n/a	n/a
Milk River at EC	n/a	n/a
Beaver Creek near Havre	n/a	n/a

SNOTEL DATA:

S N O W - P R E C I P I T A T I O N U P D A T E

Based on Mountain Data from NRCS SNOTEL Sites
As of MONDAY: DECEMBER 1, 2008

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

ST. MARY AND MILK RIVER BASINS

FLATTOP MTN.	6300	3.9	10.9	36	8.5	15.4	55
MANY GLACIER	4900	.4	3.2	12	5.3	10.9	49
ROCKY BOY	4700	.7	.9	78	3.5	2.9	121

Basin wide percent of average	33	59
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MILK RIVER BASIN MONTHLY OPERATIONS

Sherburne Reservoir	2008	Initial Cont Elev			43.8 kaf			Maximum Cont Elev			66.2 kaf			Minimum Cont Elev			3.1 kaf		Total
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	4773.78 ft	4788.03 ft	4731.73 ft			
Monthly Inflow	kaf	3.5	2.7	2.1	2.8	9.0	34.1	40.2	19.1	5.6	5.5	4.8	4.0	133.4					
Release	kaf	0.0	0.0	0.0	13.4	36.0	20.2	2.4	29.1	35.8	11.7	0.0	0.0	148.6					
Release	cfs	0	0	0	218	605	329	40	473	582	197	0	0						
Net Change Content	kaf	3.5	2.7	2.1	-10.6	-27.0	13.9	37.8	-10.0	-30.2	-6.2	4.8	4.0	-15.2					
End-Month Content	kaf	47.3	50.0	52.1	41.5	14.5	28.4	66.2	56.2	26.0	19.8	24.6	28.6						
End-Month Elevation	ft	4776.22	4778.03	4779.41	4772.11	4747.39	4761.29	4788.03	4782.02	4759.11	4753.09	4757.80	4761.47						

St. Mary River	2008	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
St. Mary Gain	kaf	6.8	5.4	5.1	6.7	13.8	94.3	134.1	58.8	28.2	17.4	11.9	9.0	391.5
Nat. flow at bound.	kaf	10.3	8.1	7.2	9.5	22.8	128.4	174.3	77.9	33.8	22.9	16.7	13.0	524.9
US share	kaf	5.2	4.1	3.6	4.8	5.7	53.9	77.2	28.7	8.5	5.7	4.2	6.5	208.1
Can share	kaf	5.1	4.0	3.6	4.7	17.1	74.5	97.1	49.2	25.3	17.2	12.5	6.5	316.8
Can del.	kaf	5.1	4.0	3.6	4.7	17.1	74.5	97.1	49.2	25.3	17.2	11.4	6.5	315.7
Excess to Canada	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.9
US share to Canada	kaf	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	1.3
Max canal flow	cfs	0	0	0	400	650	650	640	630	630	600	0	0	
Desired canal div	cfs	0	0	0	250	550	650	640	630	630	200	0	0	
St. Mary Canal Div	cfs	0	0	0	250	550	651	640	629	629	200	0	0	
St. Mary Canal Div	kaf	0.0	0.0	0.0	15.4	32.7	40.0	38.1	38.7	38.7	11.9	0.0	0.0	215.5

Fresno Reservoir	2008	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
Milk R. runoff	kaf	1.0	0.5	1.5	12.0	16.6	20.3	15.8	5.8	1.6	4.6	2.9	1.9	84.5
From St. Mary Canal	kaf	0.0	0.0	0.0	13.9	29.4	36.0	34.3	34.8	34.8	10.7	0.0	0.0	193.9
Total inflow	kaf	1.0	0.5	1.5	25.9	46.0	56.3	50.1	40.6	36.4	15.3	2.9	1.9	278.4
Release	kaf	2.6	2.6	2.4	4.4	34.2	48.5	60.3	66.9	42.6	20.4	2.6	2.6	290.1
Release	cfs	42	42	43	72	575	789	1013	1088	693	343	42	44	
Project irr req	kaf	0.0	0.0	0.0	0.0	0.0	16.5	45.3	51.7	26.3	7.4	0.0	0.0	147.2
Bowdoin WR req	kaf	0.0	0.0	0.0	0.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	3.5
Ft Belknap irr req	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	5.0	4.0	0.0	0.0	13.0
Nelson transfer	kaf	0.0	0.0	0.0	14.0	15.0	9.0	10.0	10.0	10.0	12.0	5.0	0.0	85.0
Irrigation delivery	kaf	0.0	0.0	0.0	0.0	2.0	18.0	45.3	55.7	31.3	11.4	0.0	0.0	163.7
Fresno bypass	kaf	2.6	2.6	2.4	0.0	26.6	23.5	0.0	-0.1	0.0	0.0	2.0	2.6	62.2
Irrigation shortage	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	0.0
Net Change Content	kaf	-1.6	-2.1	-0.9	21.5	11.9	7.7	-10.2	-26.3	-6.2	-5.2	0.3	-0.7	-11.8
End-Month Content	kaf	54.7	52.6	51.7	73.2	85.0	92.8	82.6	56.3	50.1	45.0	45.3	44.6	
End-Month Elevation	ft	2565.16	2564.42	2564.09	2570.54	2573.34	2574.97	2572.78	2565.71	2563.52	2561.53	2561.66	2561.38	

Nelson Reservoir	2008	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
Nelson delivery	kaf	0.0	0.0	0.0	13.0	13.9	9.0	9.9	9.5	9.7	11.4	5.0	0.0	81.4
Nelson Release	kaf	0.0	0.0	0.0	0.0	0.0	9.1	11.1	19.5	14.1	1.1	0.0	0.0	54.9
Malta irr req	kaf	0.0	0.0	0.0	0.0	0.0	7.2	7.4	13.0	8.3	0.7	0.0	0.0	36.6
Glasgow irr req	kaf	0.0	0.0	0.0	0.0	0.0	1.9	3.7	6.5	5.8	0.4	0.0	0.0	18.3
Net Change Content	kaf	-1.8	-1.8	-1.7	11.2	12.1	-1.9	-3.0	-11.8	-6.2	8.5	3.2	-1.8	5.0
End-Month Content	kaf	59.2	57.4	55.7	66.9	79.0	77.1	74.1	62.3	56.1	64.6	67.8	66.0	
End-Month Elevation	ft	2216.65	2216.16	2215.69	2218.67	2221.61	2221.17	2220.46	2217.48	2215.80	2218.08	2218.90	2218.44	

MILK RIVER BASIN MONTHLY OPERATIONS

Sherburne Reservoir	2008	Initial Cont Elev			43.8 kaf			Maximum Cont Elev			66.2 kaf			Minimum Cont Elev			3.1 kaf		Total
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	4773.78 ft	4788.03 ft	4731.73 ft			
Monthly Inflow	kaf	3.3	2.5	1.5	2.4	8.4	24.8	27.6	14.4	6.4	4.1	4.5	3.7	103.6					
Release	kaf	0.0	0.0	0.0	2.0	31.2	28.4	21.3	27.8	16.6	8.8	0.0	0.0	136.1					
Release	cfs	0	0	0	33	524	462	358	452	270	148	0	0						
Net Change Content	kaf	3.3	2.5	1.5	0.4	-22.8	-3.6	6.3	-13.4	-10.2	-4.7	4.5	3.7	-32.5					
End-Month Content	kaf	47.1	49.6	51.1	51.5	28.7	25.1	31.4	18.0	7.8	3.1	7.6	11.3						
End-Month Elevation	ft	4776.08	4777.77	4778.76	4779.02	4761.56	4758.27	4763.93	4751.22	4739.05	4731.73	4738.78	4743.62						

St. Mary River	2008	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
St. Mary Gain	kaf	4.8	3.7	4.5	4.6	7.5	68.5	81.1	56.7	26.2	14.3	8.4	5.0	285.3
Nat. flow at bound.	kaf	8.1	6.2	6.0	7.0	15.9	93.3	108.7	71.1	32.6	18.4	12.9	8.7	388.9
US share	kaf	4.1	3.1	3.0	3.5	4.0	36.4	44.4	25.3	8.2	4.6	3.2	4.4	144.2
Can share	kaf	4.0	3.1	3.0	3.5	11.9	56.9	64.3	45.8	24.4	13.8	9.7	4.3	244.7
Can del.	kaf	4.0	3.1	3.0	3.5	11.9	56.9	64.3	45.8	24.4	13.8	7.9	4.3	242.9
Excess to Canada	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	0.0
US share to Canada	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	0.0
Max canal flow	cfs	0	0	0	400	650	650	640	630	630	300	0	0	
Desired canal div	cfs	0	0	0	50	450	650	640	630	300	200	0	0	
St. Mary Canal Div	cfs	0	0	0	50	450	651	640	629	299	156	0	0	
St. Mary Canal Div	kaf	0.0	0.0	0.0	3.1	26.8	40.0	38.1	38.7	18.4	9.3	0.0	0.0	174.4

Fresno Reservoir	2008	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
Milk R. runoff	kaf	0.5	-0.6	0.1	2.0	3.7	0.7	0.8	0.0	0.0	1.8	1.0	0.7	10.7
From St. Mary Canal	kaf	0.0	0.0	0.0	2.8	24.1	36.0	34.3	34.8	16.6	8.4	0.0	0.0	157.0
Total inflow	kaf	0.5	-0.6	0.1	4.8	27.8	36.7	35.1	34.8	16.6	10.2	1.0	0.7	167.7
Release	kaf	2.6	2.6	2.4	2.6	12.2	21.0	45.6	50.9	32.2	17.0	2.6	2.6	194.3
Release	cfs	42	42	43	42	205	342	766	828	524	286	42	44	
Project irr req	kaf	0.0	0.0	0.0	0.0	0.0	12.4	34.0	38.8	19.0	5.3	0.0	0.0	109.5
Bowdoin WR req	kaf	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Ft Belknap irr req	kaf	0.0	0.0	0.0	0.0	0.0	0.0	2.0	4.0	1.0	4.0	0.0	0.0	11.0
Nelson transfer	kaf	0.0	0.0	0.0	6.0	12.0	7.0	5.0	5.0	10.0	9.0	3.0	0.0	57.0
Irrigation delivery	kaf	0.0	0.0	0.0	0.0	1.5	12.4	36.0	42.8	20.0	9.3	0.0	0.0	122.0
Fresno bypass	kaf	2.6	2.6	2.4	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.6	11.4
Irrigation shortage	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	0.0
Net Change Content	kaf	-2.1	-3.2	-2.3	2.2	15.6	15.7	-10.5	-16.1	-15.6	-6.8	-1.6	-1.9	-26.6
End-Month Content	kaf	54.2	51.0	48.7	50.9	66.5	82.2	71.7	55.6	40.0	33.2	31.6	29.7	
End-Month Elevation	ft	2564.99	2563.84	2562.98	2563.80	2568.78	2572.70	2570.19	2565.47	2559.45	2556.37	2555.59	2554.65	

Nelson Reservoir	2008	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
Nelson delivery	kaf	0.0	0.0	0.0	6.0	11.7	6.9	5.0	4.8	9.9	8.7	3.0	0.0	56.0
Nelson Release	kaf	0.0	0.0	0.0	0.0	0.0	8.1	8.4	14.2	9.5	1.2	0.0	0.0	41.4
Malta irr req	kaf	0.0	0.0	0.0	0.0	0.0	5.4	5.6	9.8	6.2	0.6	0.0	0.0	27.6
Glasgow irr req	kaf	0.0	0.0	0.0	0.0	0.0	2.7	2.8	4.4	3.3	0.6	0.0	0.0	13.8
Net Change Content	kaf	-1.8	-1.8	-1.7	4.2	9.9	-3.0	-5.2	-11.2	-1.4	5.7	1.2	-1.8	-6.9
End-Month Content	kaf	59.2	57.4	55.7	59.9	69.8	66.8	61.6	50.4	49.0	54.7	55.9	54.1	
End-Month Elevation	ft	2216.65	2216.16	2215.69	2216.84	2219.40	2218.65	2217.29	2214.16	2213.74	2215.41	2215.75	2215.24	

MILK RIVER BASIN MONTHLY OPERATIONS

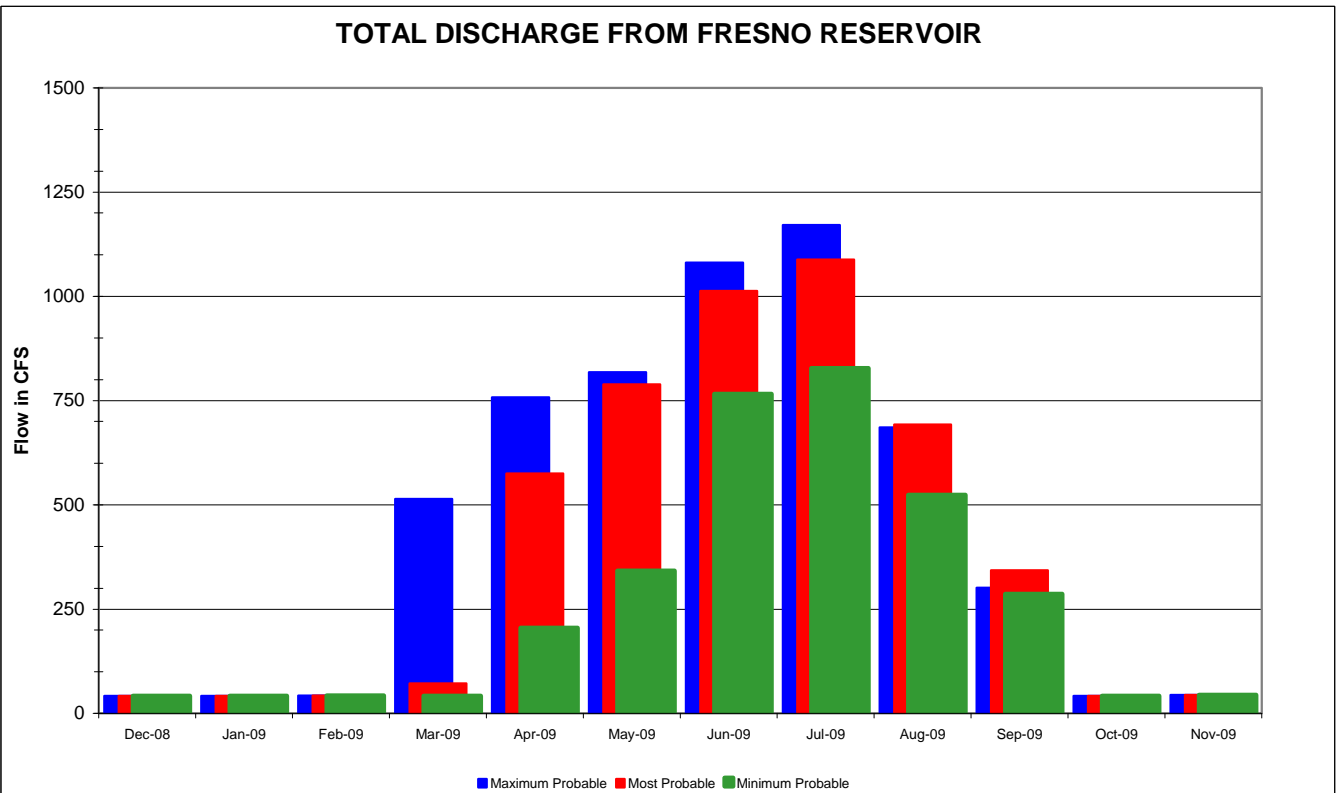
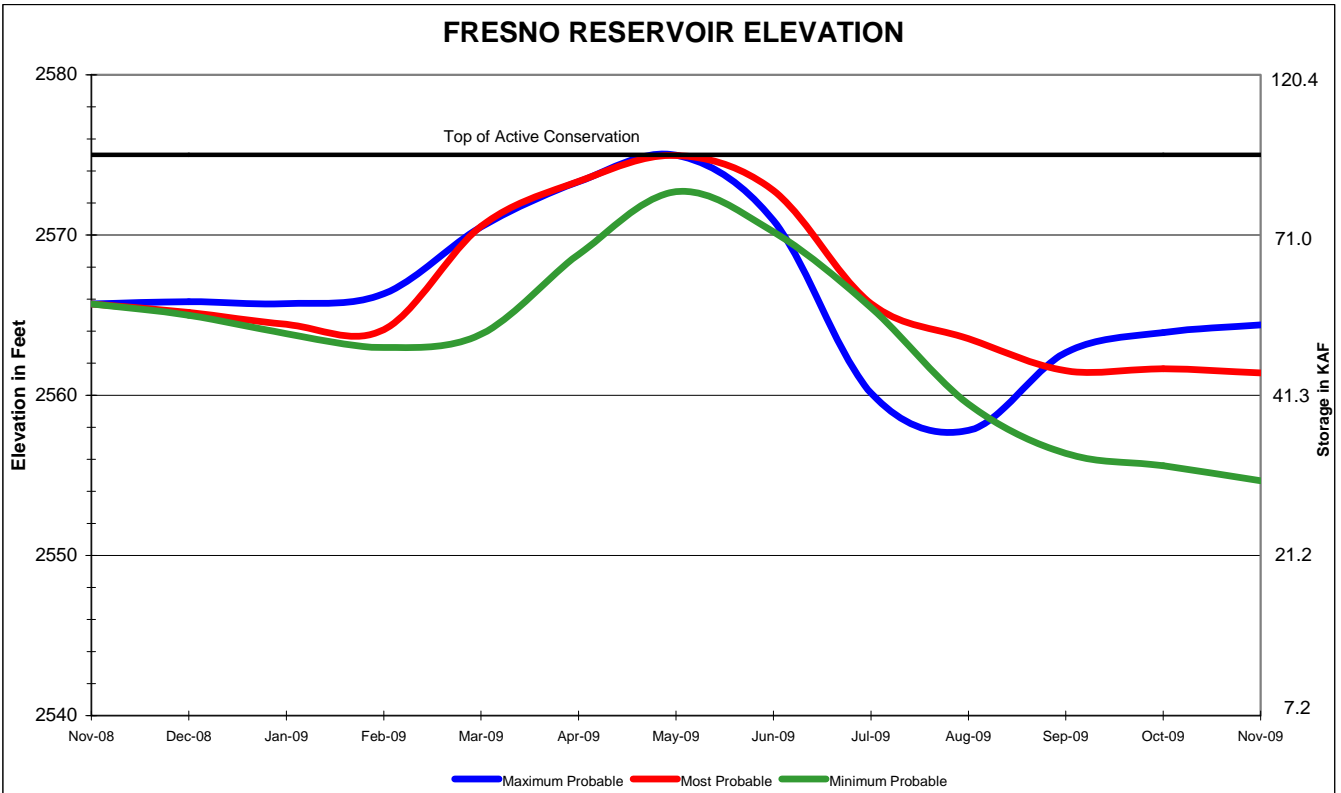
Sherburne Reservoir		Initial Cont Elev 4773.78 ft			43.8 kaf		Maximum Cont Elev 4788.03 ft			66.2 kaf			Minimum Cont Elev 4731.73 ft		3.1 kaf		Total
2008		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov				
Monthly Inflow	kaf	3.9	3.2	2.8	3.3	9.7	35.5	50.3	24.7	11.1	6.4	5.9	5.6	162.4			
Release	kaf	0.0	0.0	0.0	14.3	24.0	12.3	35.7	24.7	33.2	20.3	0.0	0.0	164.5			
Release	cfs	0	0	0	233	403	200	600	402	540	341	0	0				
Net Change Content	kaf	3.9	3.2	2.8	-11.0	-14.3	23.2	14.6	0.0	-22.1	-13.9	5.9	5.6	-2.1			
End-Month Content	kaf	47.7	50.9	53.7	42.7	28.4	51.6	66.2	66.2	44.1	30.2	36.1	41.7				
End-Month Elevation	ft	4776.49	4778.62	4780.44	4772.99	4761.29	4779.08	4788.03	4788.03	4774.00	4762.89	4767.88	4772.26				

2008		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
St. Mary River														
St. Mary Gain	kaf	13.1	10.0	9.6	11.4	35.1	125.4	170.2	103.4	42.6	25.6	24.1	22.0	592.5
Nat. flow at bound.	kaf	17.0	13.2	12.4	14.7	44.8	160.9	220.5	128.1	53.7	32.0	30.0	27.6	754.9
US share	kaf	8.5	6.6	6.2	7.4	12.5	70.2	100.3	53.8	16.6	8.0	7.5	13.8	311.4
Can share	kaf	8.5	6.6	6.2	7.3	32.3	90.7	120.2	74.3	37.1	24.0	22.5	13.8	443.5
Can del.	kaf	8.5	6.6	6.2	7.3	32.3	90.7	120.2	74.3	37.1	22.1	22.3	13.8	441.4
Excess to Canada	kaf	0.0	0.0	0.0	0.0	0.0	0.0	34.2	15.1	0.0	0.0	0.0	0.0	49.3
US share to Canada	kaf	0.0	0.0	0.0	0.0	0.0	0.0	47.6	15.1	0.0	0.0	0.0	0.0	62.7
Max canal flow	cfs	0	0	0	400	650	650	640	630	630	600	0	0	
Desired canal div	cfs	0	0	0	300	450	650	640	630	630	400	0	0	
St. Mary Canal Div	cfs	0	0	0	299	450	651	640	629	629	400	0	0	
St. Mary Canal Div	kaf	0.0	0.0	0.0	18.4	26.8	40.0	38.1	38.7	38.7	23.8	0.0	0.0	224.5

Fresno Reservoir		Initial Cont Elev 2565.71 ft			56.3 kaf		Maximum Cont Elev 2575.83 ft			97.0 kaf			Minimum Cont Elev 2530.27 ft		0.5 kaf		Total
2008		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov				
Milk R. runoff	kaf	3.0	2.2	4.3	29.8	33.0	22.1	11.8	4.2	2.1	8.0	6.0	3.9	130.4			
From St. Mary Canal	kaf	0.0	0.0	0.0	16.6	24.1	36.0	34.3	34.8	34.8	21.4	0.0	0.0	202.0			
Total inflow	kaf	3.0	2.2	4.3	46.4	57.1	58.1	46.1	39.0	36.9	29.4	6.0	3.9	332.4			
Release	kaf	2.6	2.6	2.4	31.6	45.1	50.3	64.3	72.0	42.2	17.9	2.6	2.6	336.2			
Release	cfs	42	42	43	514	758	818	1081	1171	686	301	42	44				
Project irr req	kaf	0.0	0.0	0.0	0.0	0.0	18.1	49.9	56.8	29.0	8.1	0.0	0.0	161.9			
Bowdoin WR req	kaf	0.0	0.0	0.0	0.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	3.5			
Ft Belknap irr req	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	5.0	4.0	0.0	0.0	13.0			
Nelson transfer	kaf	0.0	0.0	0.0	20.0	18.0	10.0	13.0	10.0	10.0	9.0	5.0	0.0	95.0			
Irrigation delivery	kaf	0.0	0.0	0.0	0.0	2.0	19.6	49.9	60.8	34.0	12.1	0.0	0.0	178.4			
Fresno bypass	kaf	2.6	2.6	2.4	24.4	50.2	24.4	0.0	0.0	0.0	-0.1	4.0	2.6	113.1			
Irrigation shortage	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	0.0			
Net Change Content	kaf	0.4	-0.4	1.9	14.8	12.0	7.8	-18.2	-33.0	-5.3	11.5	3.4	1.3	-3.8			
End-Month Content	kaf	56.7	56.3	58.2	73.0	85.0	92.8	74.6	41.6	36.3	47.8	51.2	52.5				
End-Month Elevation	ft	2565.84	2565.71	2566.33	2570.50	2573.33	2574.98	2570.90	2560.14	2557.80	2562.65	2563.91	2564.38				

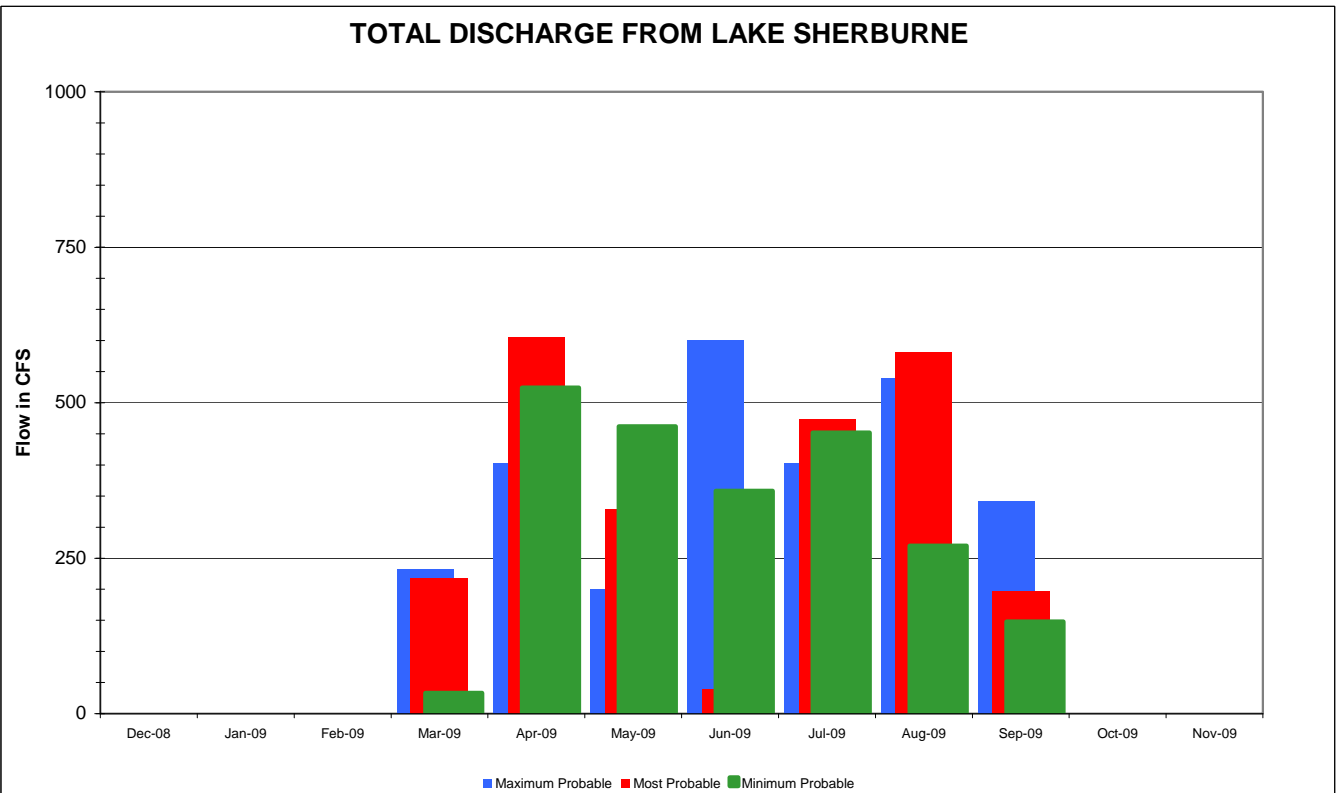
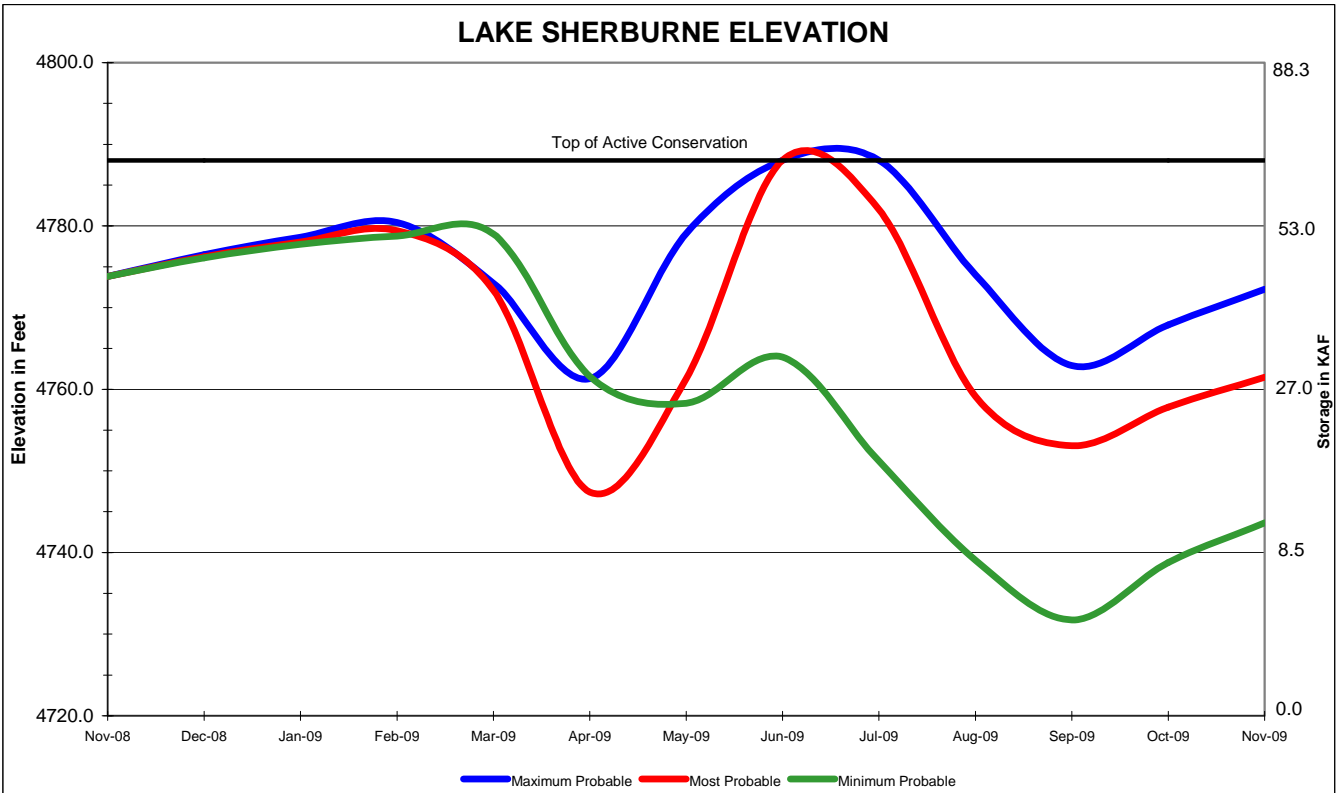
Nelson Reservoir		Initial Cont Elev 2217.14 ft			61.0 kaf		Maximum Cont Elev 2221.61 ft			79.0 kaf			Minimum Cont Elev 2199.91 ft		18.0 kaf		Total
2008		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov				
Nelson delivery	kaf	0.0	0.0	0.0	20.0	6.9	10.0	12.5	9.4	9.4	8.6	5.0	0.0	81.8			
Nelson Release	kaf	0.0	0.0	0.0	0.0	0.0	10.5	11.1	19.5	11.6	2.3	0.0	0.0	55.0			
Malta irr req	kaf	0.0	0.0	0.0	0.0	0.0	7.2	7.4	13.0	7.4	1.7	0.0	0.0	36.7			
Glasgow irr req	kaf	0.0	0.0	0.0	0.0	0.0	3.3	3.7	6.5	4.2	0.6	0.0	0.0	18.3			
Net Change Content	kaf	-1.8	-1.8	-1.7	18.2	5.1	-2.3	-0.4	-11.9	-4.0	4.5	3.2	-1.8	5.3			
End-Month Content	kaf	59.2	57.4	55.7	73.9	79.0	76.7	76.3	64.4	60.4	64.9	68.1	66.3				
End-Month Elevation	ft	2216.65	2216.16	2215.69	2220.41	2221.61	2221.08	2220.98	2218.03	2216.98	2218.16	2218.97	2218.52				

FRESNO RESERVOIR



WATER YEAR 2009

LAKE SHERBURNE



WATER YEAR 2009

Snowpack above Lake Sherburne

