

RECLAMATION

Managing Water in the West

August 4, 2009

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans prepared in August. Storage in Bighorn Lake on August 1 was 109 percent of average and remains 4.23 feet in the exclusive flood pool. It was also 2.56 feet lower than on July 1. Based on streamflow accretions accompanied by the planned releases out of Boysen and Buffalo Bill Reservoirs, the water supply forecast prepared in August indicated the August inflow to Bighorn Lake to be about 103 percent of average. If you have any questions or concerns, please feel free to call me at (406) 247-7318.

Tim H. Felchle
Reservoir and River Operations



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

YELLOWTAIL RESERVOIR OPERATIONS
 Water Supply Forecasts and Reservoir Operations
 August 1, 2009

Present Elevations & Storages:

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4723.55	713,569	117
Buffalo Bill	5390.46	622,084	106
Bighorn Lake	3646.79	1,126,536	109

Actual Inflows (1,000 Acre-Feet):

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
June	595.1	144
July	330.6	114
August	129.6	81
September	184.6	107
<i>April-July, 2008</i>	<i>1,298.3</i>	<i>117</i>
<i>WY-2008 Total</i>	<i>2,133.2</i>	<i>91</i>
October	151.2	83
November	118.9	78
December	98.0	71
January	112.0	84
February	113.0	84
March	138.6	82
April	142.6	87
May	268.3	109
June	771.6	187
July	474.1	163

Actual Gains Between Boysen and Buffalo Bill to Yellowtail (1,000 Acre-Feet):

<u>Month</u>	<u>Gains</u>	<u>Percent of Normal</u>
June	179.7	118
July	29.4	535
August	-19.1	---
September	63.4	138
<i>April-July, 2008</i>	<i>350.3</i>	<i>122</i>
<i>WY-2008 Total</i>	<i>702.8</i>	<i>100</i>
October	70.3	90
November	51.2	79
December	33.0	71
January	47.2	101
February	54.2	96
March	67.8	88
April	55.5	120
May	47.7	57
June	177.4	117
July	62.0	1127

August 1 Runoff Forecast (August Flows - 1,000 Acre-Feet):

<u>Agency</u>	<u>Gains</u>	<u>Percent of Normal</u>
USBR	9.5	---
	<u>Inflows</u>	
USBR	164.7	103

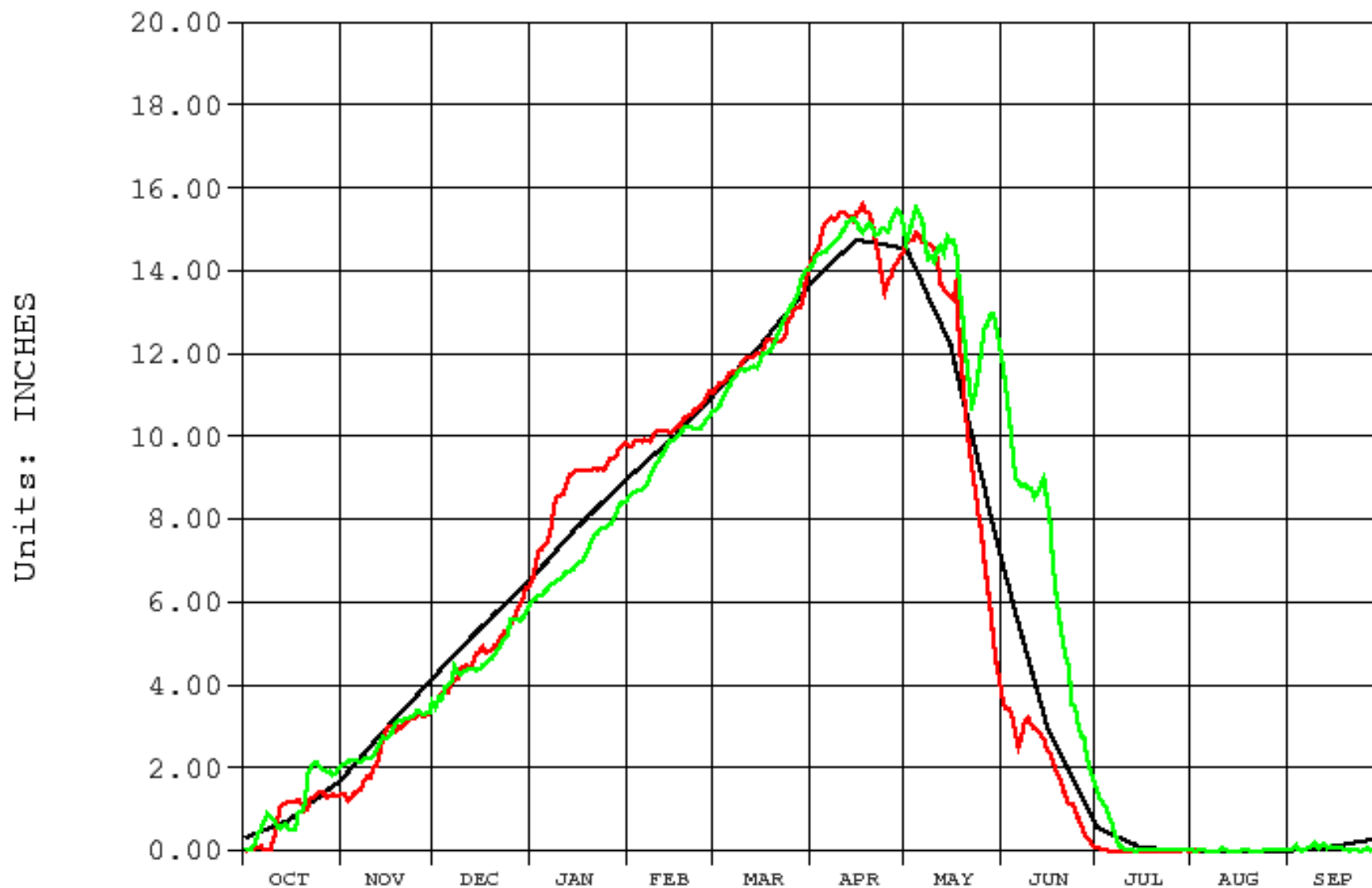
Snowpack Conditions:

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

Not Available during August and September

Archive Data From 1-OCT Through 30-SEP

Plotted 08/03/2009 08:15



BHR Bighorn Lake (Yellowtail), Bighorn River near Fort Smith, MT

SE_AVG Snow Water Equivalent Average (inches)

SE Snow Water Equivalent (inches)

2009

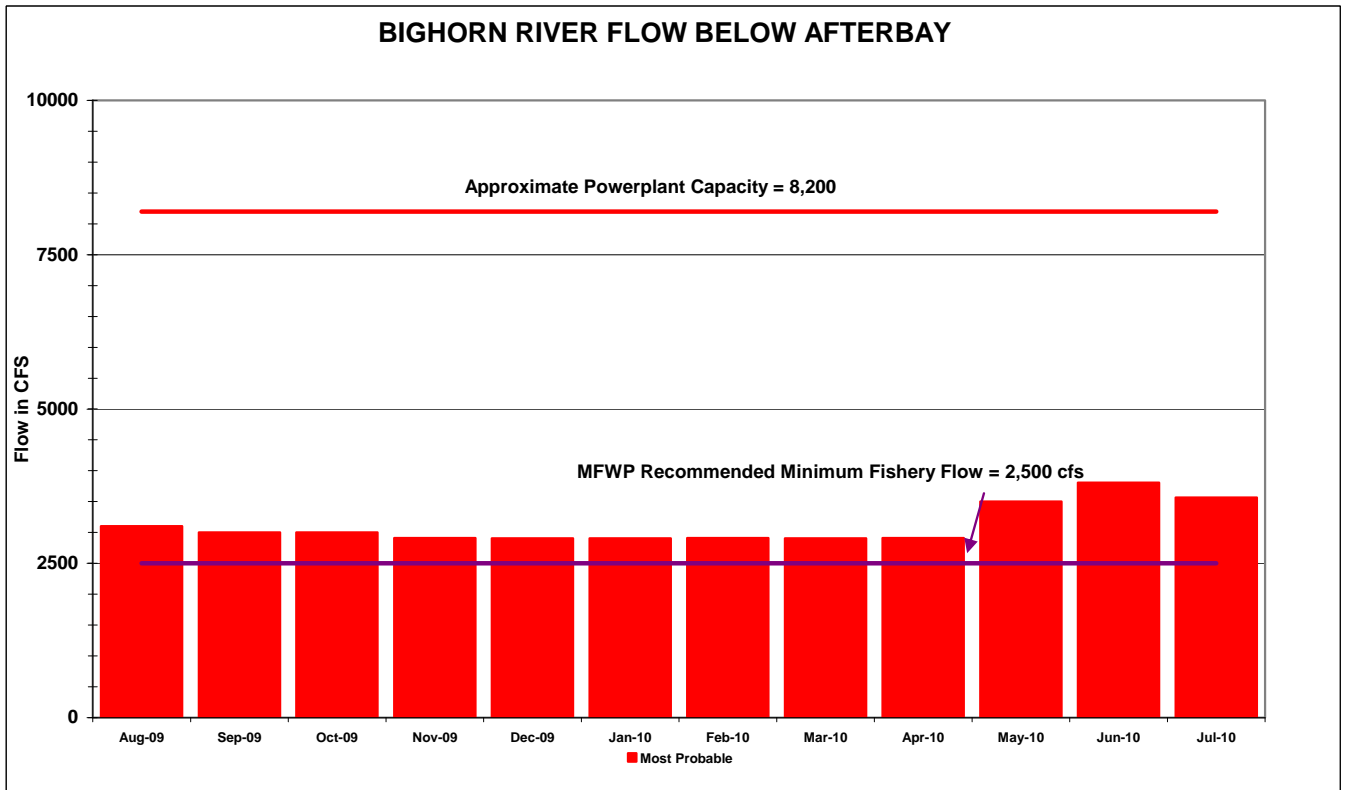
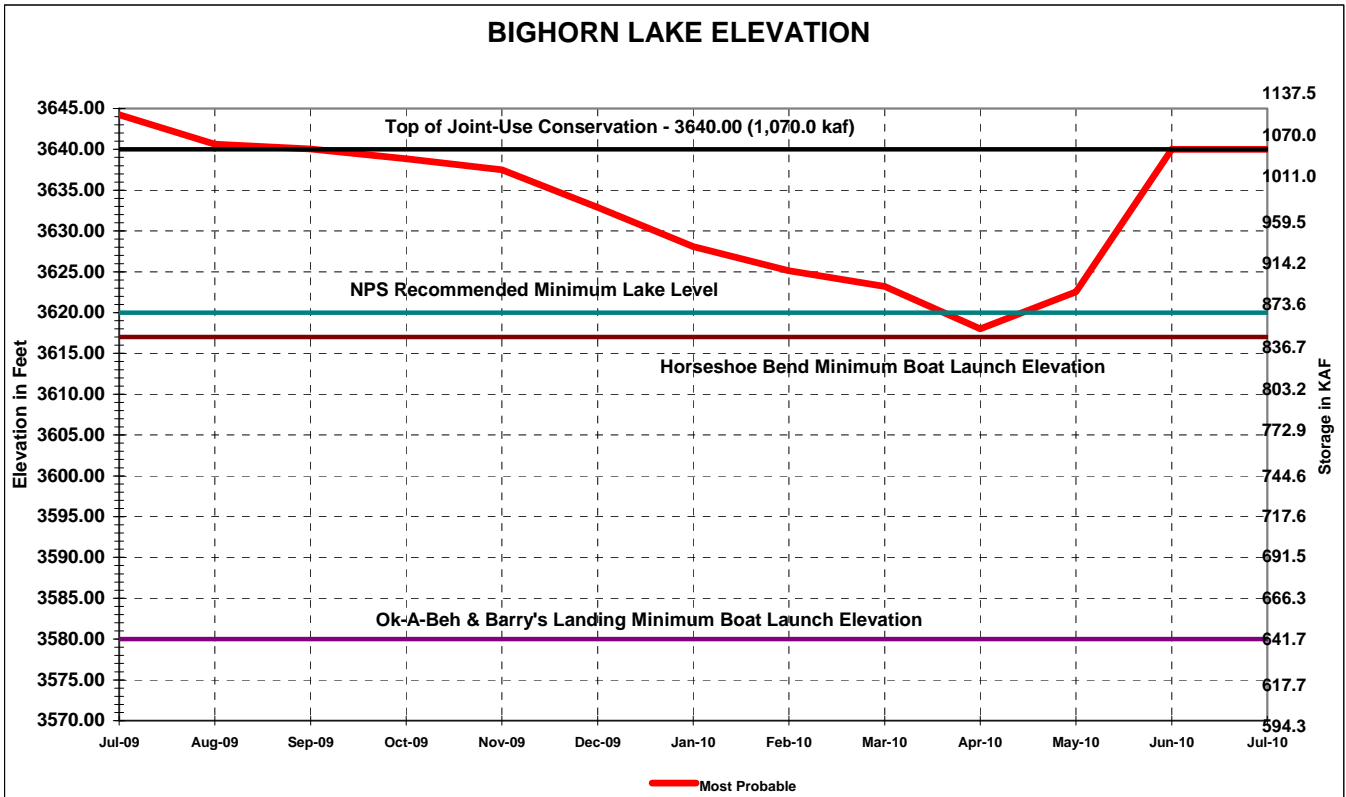
2009 2008

BHXAOP V1.12 Run: 04-Aug-2009 15:17
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont 1126.5 kaf Elev 3644.23 ft					Maximum Cont 1328.4 kaf Elev 3657.00 ft					Minimum Cont 493.6 kaf Elev 3547.00 ft			Total
2009		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul		
Boysen Release	kaf	86.1	71.4	55.4	53.6	55.4	55.4	50.0	55.3	53.6	105.6	168.8	117.2	927.8	
Boysen Release	cfs	1400	1200	901	901	901	901	900	899	901	1717	2837	1906		
Buffalo Bill Riv Flo	kaf	69.1	67.0	34.9	33.7	21.5	21.5	19.4	21.5	24.4	80.8	119.7	123.6	637.1	
Buffalo Bill Riv Flo	cfs	1124	1126	568	566	350	350	349	350	410	1314	2012	2010		
Station Gain	kaf	9.5	47.1	79.4	65.1	46.9	50.4	62.0	81.7	50.8	84.2	136.9	1.9	715.9	
Monthly Inflow	kaf	164.7	185.5	169.7	152.4	123.8	127.3	131.4	158.5	128.8	270.6	425.4	242.7	2280.8	
Monthly Inflow	cfs	2679	3117	2760	2561	2013	2070	2366	2578	2165	4401	7149	3947		
Turbine Release	kaf	213.1	193.1	184.3	168.9	174.5	174.5	157.7	174.5	169.5	235.5	249.0	242.7	2337.3	
Bypass/Spill/Waste	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	
Total Release	kaf	213.1	193.1	184.3	168.9	174.5	174.5	157.7	174.5	169.5	235.5	249.0	242.7	2337.3	
Total Release	cfs	3466	3245	2997	2838	2838	2838	2840	2838	2849	3830	4185	3947		
Spring Flow	kaf	4.3	4.2	4.3	4.2	4.3	4.3	3.9	4.3	4.2	4.3	4.2	4.3	50.8	
Irrigation Reqmnt	kaf	26.8	18.8	4.1	0.0	0.0	0.0	0.0	0.0	0.6	24.6	26.8	27.7	129.4	
Afterbay Rels	kaf	217.4	197.3	188.6	173.1	178.8	178.8	161.6	178.8	173.7	239.8	253.2	247.0	2388.1	
Afterbay Rels	cfs	3536	3316	3067	2909	2908	2908	2910	2908	2919	3900	4255	4017		
River Release	kaf	190.6	178.5	184.5	173.1	178.8	178.8	161.6	178.8	173.1	215.2	226.4	219.3	2258.7	
River Release	cfs	3100	3000	3001	2909	2908	2908	2910	2908	2909	3500	3805	3567		
Min Release	kaf	190.6	178.5	184.5	148.8	153.7	153.7	138.8	153.7	148.8	215.2	148.8	153.7	1968.8	
End-Month Targets	kaf			1070.0						858.5		1070.0	1070.0		
End-Month Content	kaf	1078.1	1070.5	1055.9	1039.4	988.7	941.5	915.2	899.2	858.5	893.6	1070.0	1070.0		
End-Month Elevation	ft	3640.63	3640.04	3638.86	3637.49	3632.91	3628.08	3625.12	3623.21	3618.01	3622.53	3640.00	3640.00		
Net Change Content	kaf	-48.4	-7.6	-14.6	-16.5	-50.7	-47.2	-26.3	-16.0	-40.7	35.1	176.4	0.0	-56.5	
Yellowtail Power	2009	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Total	
Turbine Release	kaf	213.1	193.1	184.3	168.9	174.5	174.5	157.7	174.5	169.5	235.5	249.0	242.7	2337.3	
Generation	gwh	88.193	79.276	75.417	68.798	70.358	69.278	61.853	67.951	65.352	90.708	99.387	99.514	936.085	
End-Month Power Cap	mw	288.0	287.6	286.4	285.0	280.5	275.8	273.0	271.2	266.4	270.6	287.5	287.5		
% Max Gen		41	38	35	33	33	32	32	32	32	42	48	46		
Ave kwh/af		414	411	409	407	403	397	392	389	386	385	399	410	400	
Upstream Generation	gwh	29.338	26.951	15.797	13.953	10.593	10.533	9.451	10.432	12.009	31.838	33.891	33.932	238.718	
Total Generation	gwh	117.531	106.227	91.214	82.751	80.951	79.811	71.304	78.383	77.361	122.546	133.278	133.446	1174.803	

BIGHORN LAKE



WATER YEAR 2009