

# RECLAMATION

## *Managing Water in the West*

September 1, 2008

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans prepared in September 2008. Storage in Bighorn Lake on September 1 was at 103 percent of average and only 3.67 feet lower than on August 1. Based on the precipitation received in early September, accompanied by the planned releases out of Boysen and Buffalo Bill Reservoirs, the September inflow to Bighorn Lake is forecast at 164,000 acre-feet or 95 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  
 September 1, 2008

**Present Elevations & Storages:**

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4719.02	631,241	114
Buffalo Bill	5382.36	559,173	141
Bighorn Lake	3637.89	1,044,159	103

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

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
<i>April-July, 2007</i>	<i>614.1</i>	<i>51</i>
<i>WY-2007 Total</i>	<i>1,364.2</i>	<i>54</i>
October	138.7	76
November	95.8	63
December	66.3	48
January	66.3	50
February	68.0	50
March	86.1	51
April	80.9	50
May	291.6	118
June	595.1	144
July	330.6	114
<i>April-July, 2008</i>	<i>1,298.3</i>	<i>117</i>
August	129.6	81

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

<u>Month</u>	<u>Gains</u>	<u>Percent of Normal</u>
<i>April-July, 2007</i>	<i>188.2</i>	<i>60</i>
<i>WY-2007 Total</i>	<i>462.0</i>	<i>64</i>
October	92.9	118
November	63.2	98
December	32.3	71
January	32.2	69
February	36.0	63
March	52.2	68
April	20.7	45
May	120.4	143
June	179.7	118
July	29.4	535
<i>April-July, 2008</i>	<i>350.3</i>	<i>122</i>
August	-19.1	---

**September Runoff Forecast (1,000 Acre-Feet):**

<u>Agency</u>	<u>Gains</u>	<u>Percent of Normal</u>
<b>USBR</b>	<b>42.0</b>	<b>92</b>
	<u>Inflows</u>	
<b>USBR</b>	<b>164.0</b>	<b>95</b>

**Snowpack Conditions:**

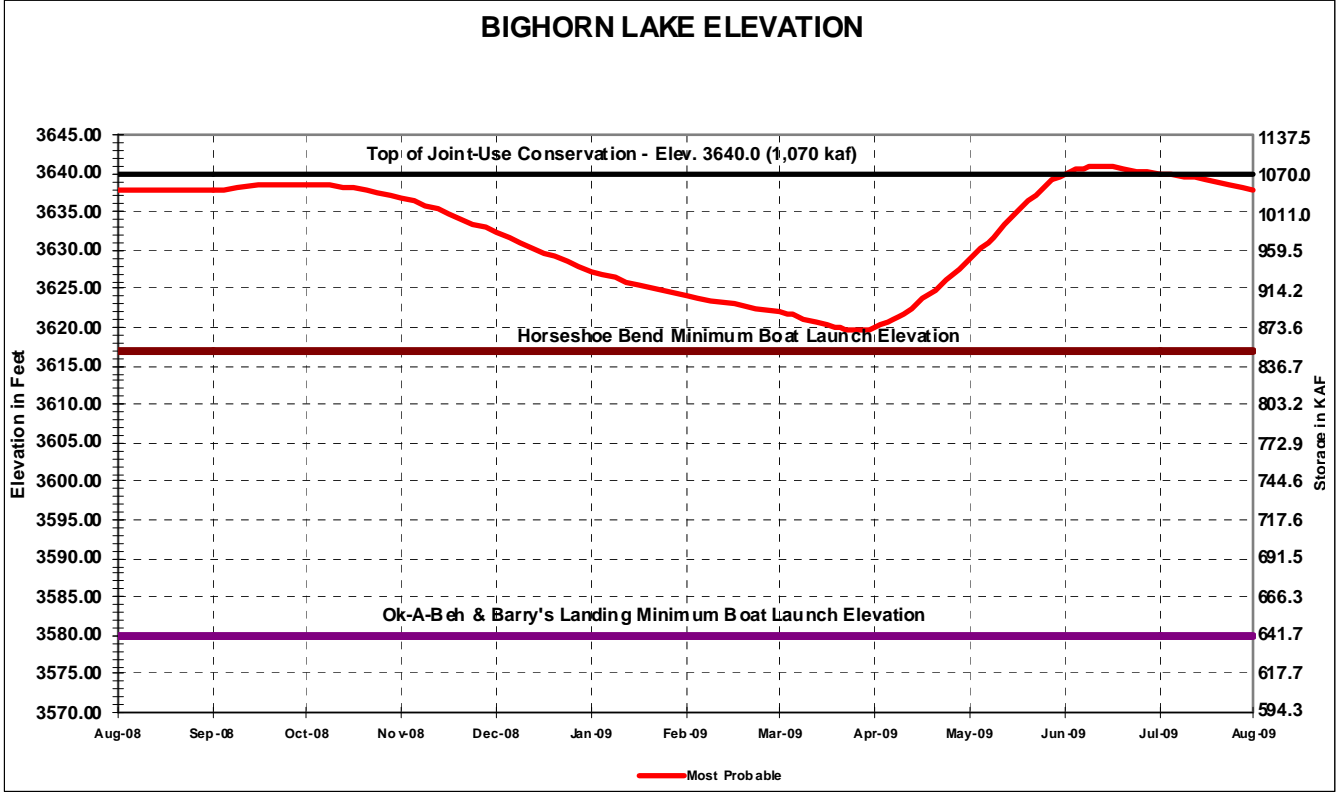
**No Snow Data Information Available Until November 1**

BIGHORN LAKE MONTHLY OPERATIONS

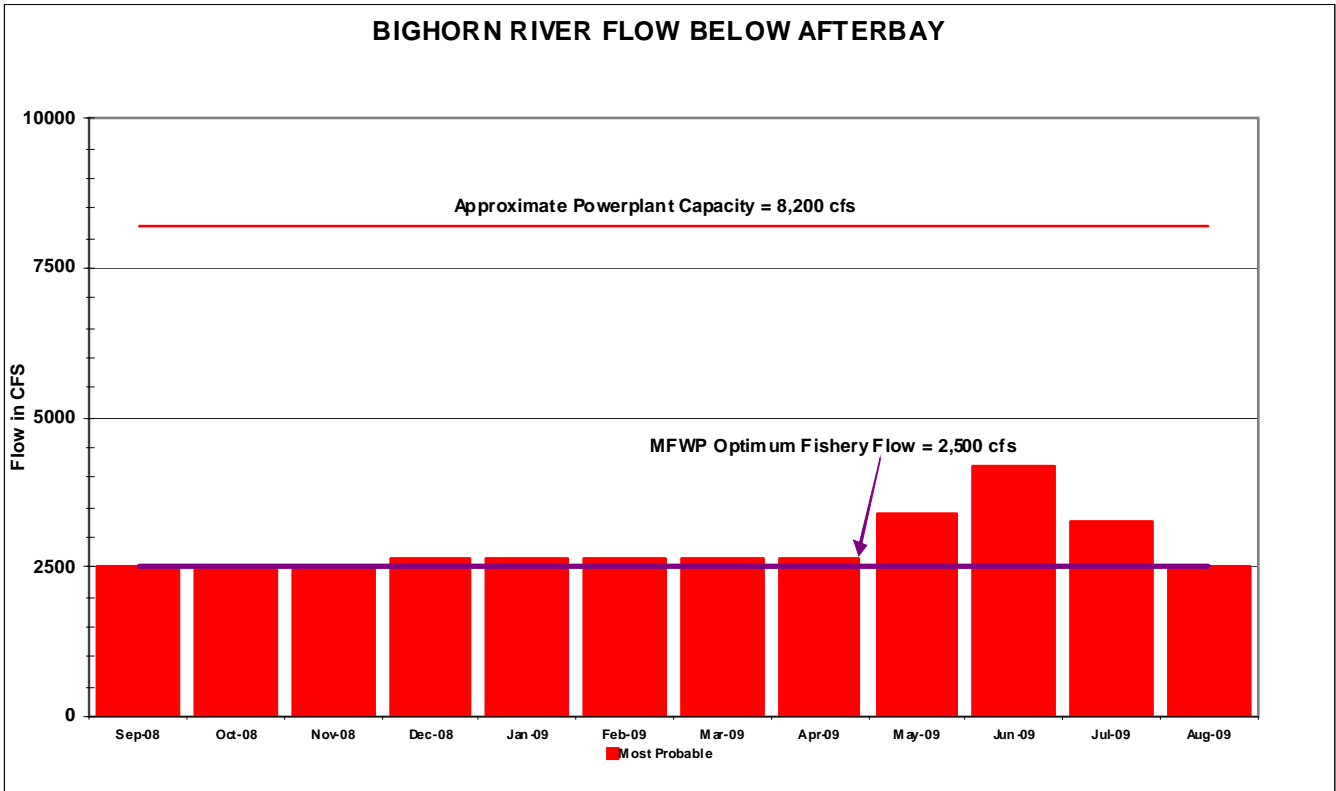
Bighorn Reservoir		Initial Cont 1044.2 kaf Elev 3637.89 ft				Maximum Cont 1328.4 kaf Elev 3657.00 ft				Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
2008	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total	
Boysen Release	kaf	53.6	46.1	41.6	43.0	43.1	38.9	43.0	69.5	140.8	132.3	128.8	87.0	867.7
Boysen Release	cfs	901	750	699	699	701	700	699	1168	2290	2223	2095	1415	
Buffalo Bill Riv Flo	kaf	68.4	39.4	20.8	21.5	21.5	19.4	21.5	24.4	93.2	146.6	104.9	63.0	644.6
Buffalo Bill Riv Flo	cfs	1150	641	350	350	350	349	350	410	1516	2464	1706	1025	
Station Gain	kaf	42.0	75.4	62.2	44.1	47.2	56.7	76.9	44.9	71.7	113.6	-9.6	0.9	626.0
Monthly Inflow	kaf	164.0	160.9	124.6	108.6	111.8	115.0	141.4	138.8	305.7	392.5	224.1	150.9	2138.3
Monthly Inflow	cfs	2756	2617	2094	1766	1818	2071	2300	2333	4972	6596	3645	2454	
Turbine Release	kaf	163.4	153.5	144.6	158.8	158.8	143.5	158.8	154.3	230.2	271.6	224.1	176.2	2137.8
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	163.4	153.5	144.6	158.8	158.8	143.5	158.8	154.3	230.2	271.6	224.1	176.2	2137.8
Total Release	cfs	2746	2496	2430	2583	2583	2584	2583	2593	3744	4564	3645	2866	
Spring Flow	kaf	4.2	4.3	4.2	4.3	4.3	3.9	4.3	4.2	4.3	4.2	4.3	4.3	50.8
Irrigation Reqmnt	kaf	18.8	4.1	0.0	0.0	0.0	0.0	0.0	0.6	24.6	26.8	27.7	26.8	129.4
Afterbay Rels	kaf	167.6	157.8	148.8	163.1	163.1	147.4	163.1	158.5	234.5	275.8	228.4	180.5	2188.6
Afterbay Rels	cfs	2817	2566	2501	2653	2653	2654	2653	2664	3814	4635	3715	2936	
River Release	kaf	148.8	153.7	148.8	163.1	163.1	147.4	163.1	157.9	209.9	249.0	200.7	153.7	2059.2
River Release	cfs	2501	2500	2501	2653	2653	2654	2653	2654	3414	4185	3264	2500	
Min Release	kaf	148.8	153.7	148.8	153.7	153.7	138.8	153.7	148.8	153.7	148.8	153.7	153.7	1809.9
End-Month Targets	kaf								873.6		1070.0	1070.0		
End-Month Content	kaf	1044.8	1052.2	1032.2	982.0	935.0	906.5	889.1	873.6	949.1	1070.0	1070.0	1044.7	
End-Month Elevation	ft	3637.94	3638.56	3636.87	3632.26	3627.37	3624.09	3621.97	3620.00	3628.90	3640.00	3640.00	3637.93	
Net Change Content	kaf	0.6	7.4	-20.0	-50.2	-47.0	-28.5	-17.4	-15.5	75.5	120.9	0.0	-25.3	0.5
Yellowtail Power	2008	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
Turbine Release	kaf	163.4	153.5	144.6	158.8	158.8	143.5	158.8	154.3	230.2	271.6	224.1	176.2	2137.8
Generation	gwh	66.495	62.541	58.804	63.891	62.910	56.139	61.636	59.544	89.769	109.357	91.887	71.979	854.952
End-Month Power Cap	mw	285.4	286.1	284.4	279.8	275.1	272.0	270.1	268.2	276.6	287.5	287.5	285.4	
% Max Gen		32	29	28	30	29	29	29	29	42	53	43	34	
Ave kwh/af		407	407	407	402	396	391	388	386	390	403	410	409	400
Upstream Generation	gwh	25.500	16.095	9.173	9.485	9.469	7.622	8.909	13.376	34.580	34.095	34.925	28.260	231.489
Total Generation	gwh	91.995	78.636	67.977	73.376	72.379	63.761	70.545	72.920	124.349	143.452	126.812	100.239	1086.441

# BIGHORN LAKE

## BIGHORN LAKE ELEVATION



## BIGHORN RIVER FLOW BELOW AFTERBAY



WATER YEAR 2008