



IN REPLY REFER TO:

## United States Department of the Interior

BUREAU OF RECLAMATION

Great Plains Region

Montana Area Office

P.O. Box 30137

Billings, Montana 59107-0137

October 10, 2007



Dear Interested Party:

Thank you for your interest in Yellowtail Dam and Bighorn Lake operations. Approximately 52 people attended our public meeting in Billings, Montana, on the evening of September 20, 2007. We heard some very good discussion at that meeting, and we received written comments from numerous groups and individuals.

After thoroughly evaluating the hydrologic data, and taking into account feedback from the public, we have finalized our October operations plan for Yellowtail Dam and Bighorn Lake. The current water level of Bighorn Lake is approximately 26 feet higher than it was last year at this time. This increased storage is a result of very conservative releases to the Bighorn River throughout this past year. Considering this increased storage, and our best estimate of fall and winter inflows, we are setting our fall/winter releases at 1,900 cubic feet per second (cfs). This release rate will help provide improved spawning conditions for brown trout in the Bighorn River, and still allow us to meet our end-of-March reservoir elevation target range (3605 feet to 3614 feet).

Hydrologic conditions will continue to be monitored closely this fall and winter, so we can provide ample flood control capability and still allow the lake to fill as quickly as possible this coming year. Should snowpack conditions and runoff projections deviate significantly from our estimates, changes in releases to the Bighorn River may be necessary. Accordingly, we will continue to update the Yellowtail Dam and Bighorn Lake operations plan monthly to reflect actual conditions. These plans can be accessed via our website at [www.usbr.gov/gp/mtao](http://www.usbr.gov/gp/mtao).

We remain committed to exploring opportunities to enhance benefits for all Yellowtail beneficiaries through collaborative efforts with interested parties and stakeholders from both Montana and Wyoming. Feel free to provide us with additional information as this operations season progresses - we look forward to working with you to better meet the competing demands on Yellowtail Dam and Bighorn Lake.

Sincerely,

Dan Jewell  
Area Manager

# RECLAMATION

## *Managing Water in the West*

October 10, 2007

Dear Customer:

Attached is the monthly water supply outlook and projected reservoir and river operating plans as prepared on October 10, 2007. Inflow to Bighorn Lake continues to remain well below normal. Since construction of the dam, the September inflow was the 3<sup>rd</sup> lowest of record for September. The fall and winter inflow is forecast to be about 50 percent of average or the 6<sup>th</sup> lowest of record. In response, conservative releases will be made this fall and winter. We hope you find the information useful. 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  
 October 1, 2007

**Present Elevations & Storages:**

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4701.87	389,685	---
Buffalo Bill	5362.74	417,846	---
Bighorn Lake	3629.71	956,743	94

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

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
<b><i>April-July, 2006</i></b>	<b><i>528.2</i></b>	<b><i>44</i></b>
<b><i>WY-2006 Total</i></b>	<b><i>1,432.9</i></b>	<b><i>57</i></b>
October	125.6	66
November	98.7	61
December	82.5	56
January	67.4	48
February	77.8	54
March	100.2	56
April	100.6	58
May	206.7	80
June	219.2	49
July	87.6	28
August	91.3	54
September	106.7	60
<b><i>April-July, 2007</i></b>	<b><i>614.1</i></b>	<b><i>51</i></b>
<b><i>WY-2007 Total</i></b>	<b><i>1,364.2</i></b>	<b><i>54</i></b>

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

<u>Month</u>	<u>Gains</u>	<u>Percent of Normal</u>
<b><i>April-July, 2006</i></b>	<b><i>-2.5</i></b>	<b><i>---</i></b>
<b><i>WY-2006 Total</i></b>	<b><i>280.6</i></b>	<b><i>39</i></b>
October	73.5	97
November	56.9	88
December	39.6	84
January	24.0	51
February	38.7	67
March	56.7	72
April	55.0	116
May	82.2	95
June	102.3	60
July	-51.3	---
August	-28.7	---
<b><i>April-July, 2007</i></b>	<b><i>188.2</i></b>	<b><i>60</i></b>
<b><i>WY-2007 Total</i></b>	<b><i>462.0</i></b>	<b><i>64</i></b>

**October Forecast of October Inflow (1,000 Acre-Feet):**

<u>Agency</u>	<u>Inflows</u>	<u>Percent of Normal</u>
<b>USBR</b>	<b>117.4</b>	<b>62</b>

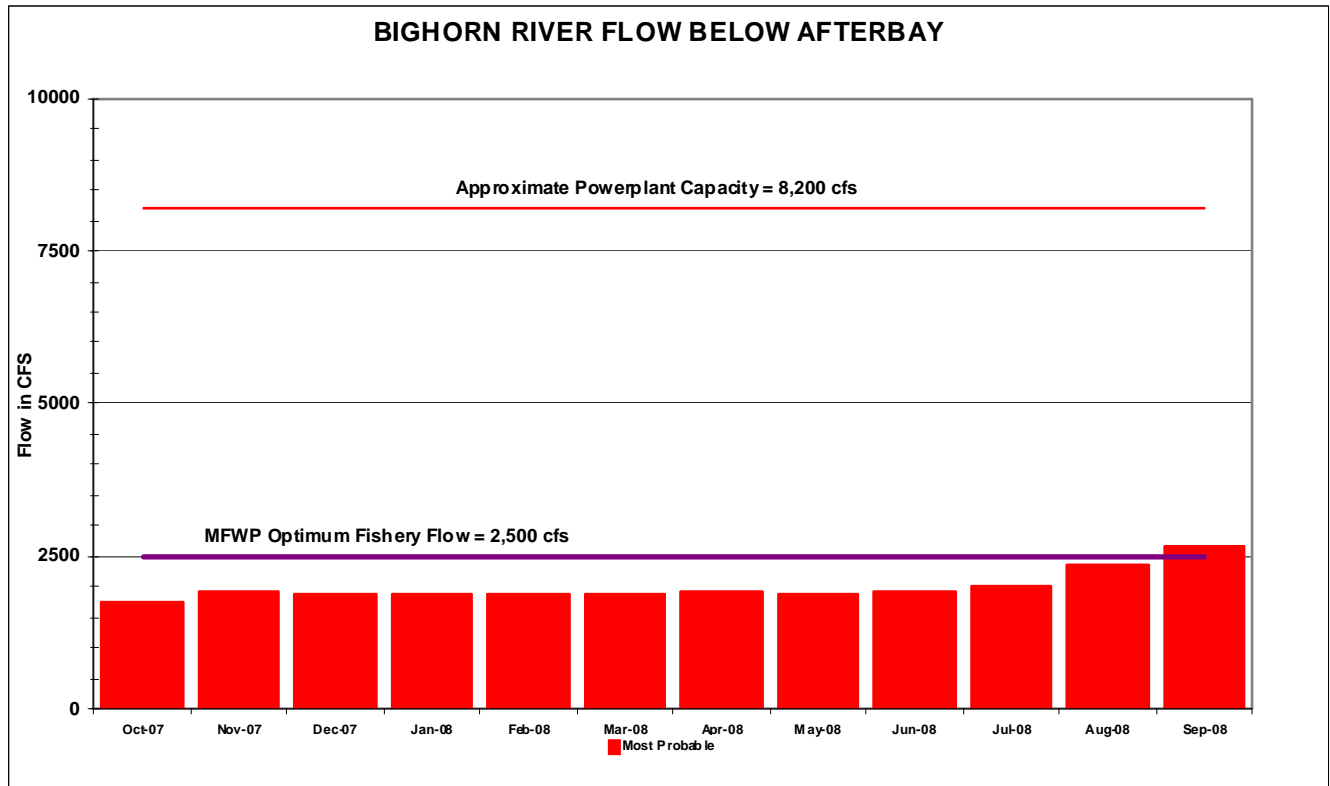
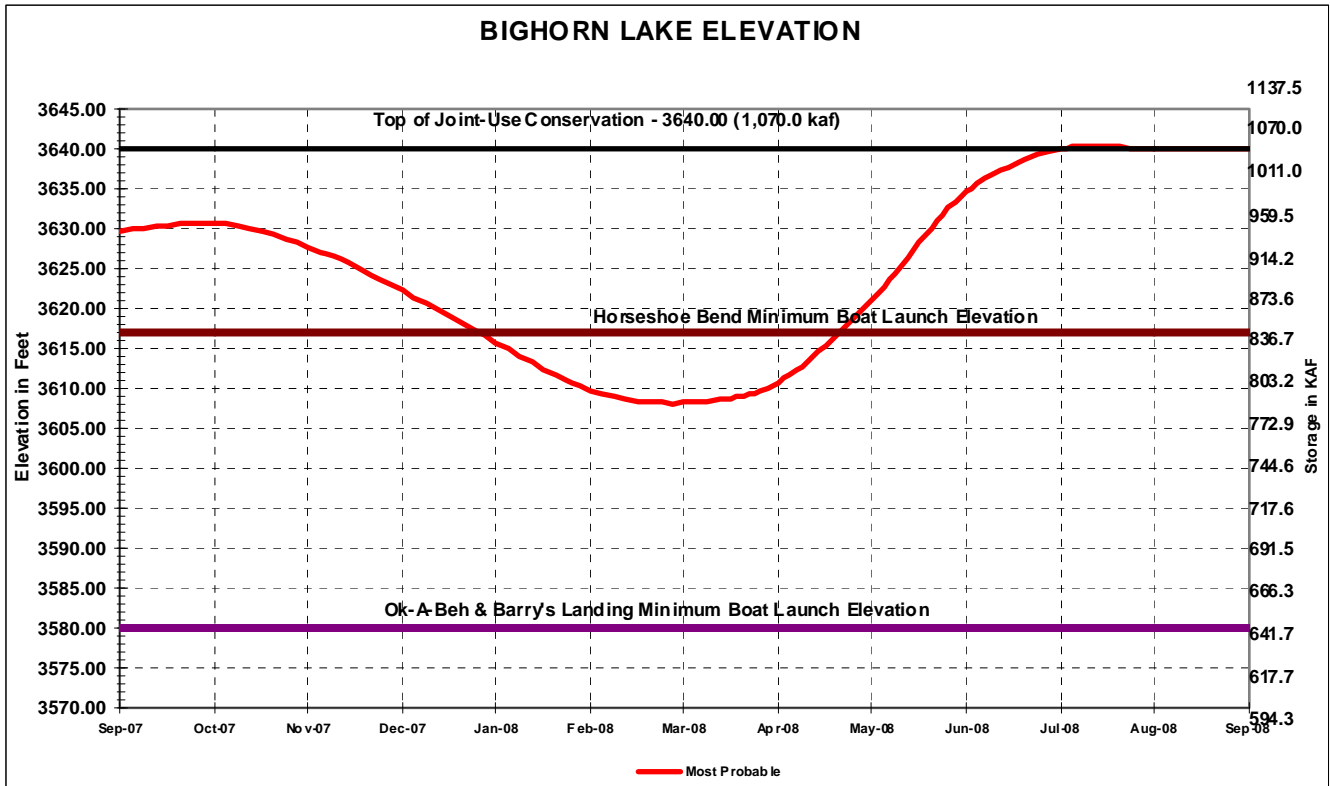
**Snowpack Conditions:** Snow Data Unavailable

BHXAOP V1.12 Run: 10-Oct-2007 13:11  
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont Elev 3629.70 ft				Maximum Cont Elev 3657.00 ft				Minimum Cont Elev 3547.00 ft				Total
	2007	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Boysen Release	kaf	24.6	23.8	24.6	24.6	23.0	24.6	50.6	67.6	69.9	118.9	97.3	68.4	617.9
Boysen Release	cfs	400	400	400	400	400	400	850	1099	1175	1934	1582	1150	
Buffalo Bill Riv Flo	kaf	24.7	8.9	9.2	9.2	8.6	9.2	38.1	77.1	89.1	112.3	78.0	75.5	539.9
Buffalo Bill Riv Flo	cfs	402	150	150	150	150	150	640	1254	1497	1826	1269	1269	
Station Gain	kaf	68.1	47.6	31.8	29.8	32.9	68.9	37.3	53.2	84.1	-20.0	-8.4	30.0	455.3
Monthly Inflow	kaf	117.4	80.3	65.6	63.6	64.5	102.7	126.0	197.9	243.1	211.2	166.9	173.9	1613.1
Monthly Inflow	cfs	1909	1349	1067	1034	1121	1670	2118	3219	4085	3435	2714	2922	
Turbine Release	kaf	107.4	108.9	112.5	112.5	105.3	112.5	109.5	123.6	118.9	147.9	166.9	173.9	1499.8
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	107.4	108.9	112.5	112.5	105.3	112.5	109.5	123.6	118.9	147.9	166.9	173.9	1499.8
Total Release	cfs	1747	1830	1830	1830	1831	1830	1840	2010	1998	2405	2714	2922	
Spring Flow	kaf	4.3	4.2	4.3	4.3	4.0	4.3	4.2	4.3	4.2	4.3	4.3	4.2	50.9
Irrigation Reqmnt	kaf	4.1	0.0	0.0	0.0	0.0	0.0	0.6	11.1	10.0	27.7	26.8	18.8	99.1
Afterbay Rels	kaf	111.7	113.1	116.8	116.8	109.3	116.8	113.7	127.9	123.1	152.2	171.2	178.1	1550.7
Afterbay Rels	cfs	1817	1901	1900	1900	1900	1900	1911	2080	2069	2475	2784	2993	
River Release	kaf	107.6	113.1	116.8	116.8	109.3	116.8	113.1	116.8	113.1	124.5	144.4	159.3	1451.6
River Release	cfs	1750	1901	1900	1900	1900	1900	1901	1900	1901	2025	2348	2677	
Min Release	kaf	107.6	113.1	116.8	116.8	109.3	116.8	113.1	116.8	113.1	116.8	116.8	113.1	1370.1
End-Month Targets	kaf										1070.0			
End-Month Content	kaf	966.7	938.1	891.2	842.3	801.5	791.7	808.2	882.5	1006.7	1070.0	1070.0	1070.0	
End-Month Elevation	ft	3630.74	3627.71	3622.23	3615.79	3609.73	3608.15	3610.78	3621.14	3634.60	3640.00	3640.00	3640.00	
Net Change Content	kaf	10.0	-28.6	-46.9	-48.9	-40.8	-9.8	16.5	74.3	124.2	63.3	0.0	0.0	113.3
Yellowtail Power	2007	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Turbine Release	kaf	107.4	108.9	112.5	112.5	105.3	112.5	109.5	123.6	118.9	147.9	166.9	173.9	1499.8
Generation	gwh	42.592	43.056	43.920	43.188	39.758	42.063	40.995	47.079	46.889	60.076	68.434	71.304	589.354
End-Month Power Cap	mw	278.3	275.4	270.3	264.3	258.8	257.3	259.7	269.3	282.1	287.5	287.5	287.5	
% Max Gen		20	21	20	20	20	20	20	22	23	28	32	34	
Ave kwh/af		397	395	390	384	378	374	374	381	394	406	410	410	393
Upstream Generation	gwh	8.883	3.625	3.002	3.782	3.555	3.845	15.055	27.042	28.330	34.089	32.191	28.725	192.124
Total Generation	gwh	51.475	46.681	46.922	46.970	43.313	45.908	56.050	74.121	75.219	94.165	100.625	100.029	781.478

# BIGHORN LAKE



WATER YEAR 2008