

# RECLAMATION

*Managing Water in the West*

October 26, 2006

Dear Customer:

Attached is the monthly water supply outlook and projected reservoir and river operating plans as prepared on October 26, 2006. The total October inflows were adjusted from those presented on October 12 to more closely reflect the actual inflows that have occurred since October 1. Streamflows into Bighorn Lake continue to be below normal, indicating the drought may not be over. Therefore, water users are advised to continue making plans to conserve the limited available water supply. 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, 2006

**Present Elevations & Storages:**

<u>Reservoir</u>	<u>Storage</u>	<u>Elevation</u>	<u>Percent of Normal</u>
Boysen	447,786	4706.63	---
Buffalo Bill	441,121	5366.19	---
Bighorn Lake	761,787	3603.07	75

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

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
<b><i>April-July, 2005</i></b>	<b><i>1,065.1</i></b>	<b><i>89</i></b>
October	160.9	85
November	104.3	64
December	102.1	69
January	107.2	76
February	93.8	65
March	126.9	71
April	106.0	61
May	184.0	71
June	163.6	37
July	74.7	23
<b><i>April-July, 2006</i></b>	<b><i>528.2</i></b>	<b><i>44</i></b>
August	82.2	48
September	127.2	71
<b><i>Annual Total, 2006</i></b>	<b><i>1,432.9</i></b>	<b><i>57</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, 2005</i></b>	<b><i>251.4</i></b>	<b><i>80</i></b>
October	87.9	116
November	36.0	56
December	33.5	71
January	44.0	93
February	38.1	66
March	58.9	75
April	28.3	60
May	54.4	63
June	-12.6	---
July	-72.5	---
<b><i>April-July, 2006</i></b>	<b><i>-2.5</i></b>	<b><i>---</i></b>
August	-48.5	---
September	33.4	77
<b><i>Annual Total, 2006</i></b>	<b><i>280.6</i></b>	<b><i>39</i></b>

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

<u>Agency</u>	<u>Inflows</u>	<u>Percent of Normal</u>
USBR	127.7	67

**Snowpack Conditions:**

Mountain Snowpack Data Currently Unavailable

BHXAOP V1.12 Run: 26-Oct-2006 10:31  
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont Elev 3603.07 ft				Maximum Cont Elev 3657.00 ft				Minimum Cont Elev 3547.00 ft				Total
	2006	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Boysen Release	kaf	30.8	29.8	30.8	30.8	27.8	30.8	50.6	67.6	116.6	120.4	94.6	68.4	699.0
Boysen Release	cfs	501	501	501	501	501	501	850	1099	1960	1958	1539	1150	
Buffalo Bill Riv Flo	kaf	24.9	11.9	12.3	12.3	11.1	12.3	46.9	84.6	97.1	100.3	78.0	75.5	567.2
Buffalo Bill Riv Flo	cfs	405	200	200	200	200	200	788	1376	1632	1631	1269	1269	
Station Gain	kaf	72.0	41.8	27.8	27.6	28.4	68.9	37.3	53.2	84.1	-20.0	-8.4	32.8	445.5
Monthly Inflow	kaf	127.7	83.5	70.9	70.7	67.3	112.0	134.8	205.4	297.8	200.7	164.2	176.7	1711.7
Monthly Inflow	cfs	2077	1403	1153	1150	1212	1822	2265	3341	5005	3264	2670	2970	
Turbine Release	kaf	87.9	85.1	87.9	87.9	79.4	87.9	85.6	99.1	161.2	200.6	179.3	166.3	1408.2
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	87.9	85.1	87.9	87.9	79.4	87.9	85.6	99.1	161.2	200.6	179.3	166.3	1408.2
Total Release	cfs	1430	1430	1430	1430	1430	1430	1439	1612	2709	3262	2916	2795	
Spring Flow	kaf	4.3	4.2	4.3	4.3	3.9	4.3	4.2	4.3	4.2	4.3	4.3	4.2	50.8
Irrigation Reqmnt	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.5	11.2	21.8	27.7	26.8	18.8	106.8
Afterbay Rels	kaf	92.2	89.3	92.2	92.2	83.3	92.2	89.8	103.4	165.4	204.9	183.6	170.5	1459.0
Afterbay Rels	cfs	1499	1501	1499	1499	1500	1499	1509	1682	2780	3332	2986	2865	
River Release	kaf	92.2	89.3	92.2	92.2	83.3	92.2	89.3	92.2	143.6	177.2	156.8	151.7	1352.2
River Release	cfs	1499	1501	1499	1499	1500	1499	1501	1499	2413	2882	2550	2549	
Min Release	kaf	92.2	89.3	92.2	92.2	83.3	92.2	89.3	92.2	89.3	123.0	156.8	151.7	1243.7
End-Month Targets	kaf		1011.0								1070.0			
End-Month Content	kaf	801.6	800.0	783.0	765.8	753.7	777.8	827.0	933.3	1069.9	1070.0	1054.9	1065.3	
End-Month Elevation	ft	3609.74	3609.49	3606.71	3603.77	3601.64	3605.84	3613.61	3627.18	3639.99	3640.00	3638.78	3639.62	
Net Change Content	kaf	39.8	-1.6	-17.0	-17.2	-12.1	24.1	49.2	106.3	136.6	0.1	-15.1	10.4	303.5
Yellowtail Power	2006	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Turbine Release	kaf	87.9	85.1	87.9	87.9	79.4	87.9	85.6	99.1	161.2	200.6	179.3	166.3	1408.2
Generation	gwh	32.672	31.871	32.799	32.576	29.251	32.462	32.078	38.226	64.745	82.250	73.355	67.990	550.275
End-Month Power Cap	mw	258.8	258.6	256.1	253.4	251.5	255.3	262.3	274.9	287.5	287.5	286.3	287.1	
% Max Gen		15	15	15	15	15	15	15	18	31	38	34	33	
Ave kwh/af		372	375	373	371	368	369	375	386	402	410	409	409	391
Upstream Generation	gwh	10.307	5.306	5.502	5.506	4.479	5.546	17.824	28.202	32.335	34.196	31.958	28.734	209.895
Total Generation	gwh	42.979	37.177	38.301	38.082	33.730	38.008	49.902	66.428	97.080	116.446	105.313	96.724	760.170

BIGHORN LAKE MONTHLY OPERATIONS

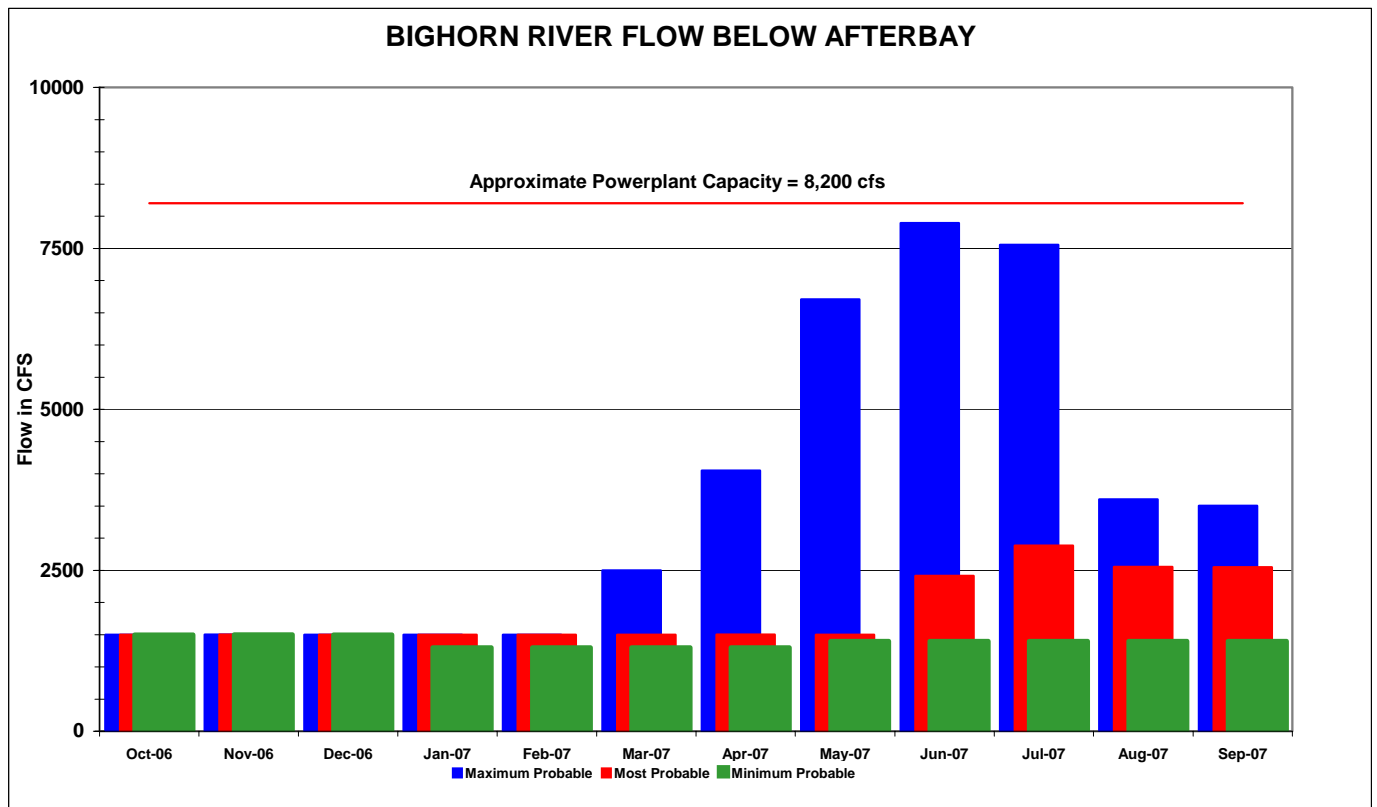
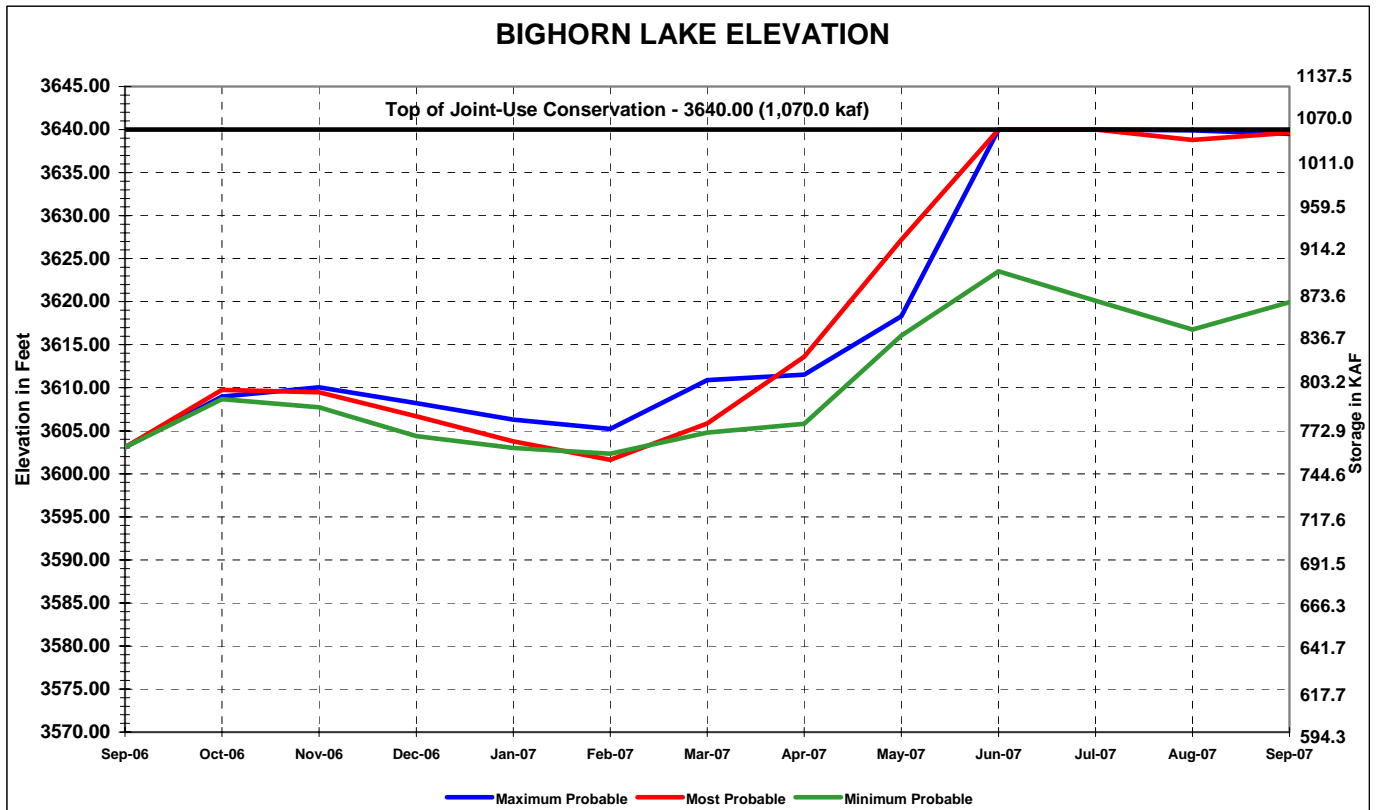
Bighorn Reservoir	Initial Cont 761.8 kaf Elev 3603.07 ft					Maximum Cont 1328.4 kaf Elev 3657.00 ft					Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2006	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Boysen Release	kaf	30.7	29.8	30.7	30.7	27.8	30.7	38.7	60.0	68.4	68.9	60.3	44.6	521.3	
Boysen Release	cfs	499	501	499	499	501	499	650	976	1150	1121	981	750		
Buffalo Bill Riv Flo	kaf	18.4	11.9	12.3	12.3	11.1	12.3	24.4	64.9	62.7	70.4	63.0	50.0	413.7	
Buffalo Bill Riv Flo	cfs	299	200	200	200	200	200	410	1055	1054	1145	1025	840		
Station Gain	kaf	72.0	37.6	25.0	24.8	25.6	46.5	16.7	34.5	27.5	-57.1	-39.9	27.3	240.5	
Monthly Inflow	kaf	121.1	79.3	68.0	67.8	64.5	89.5	79.8	159.4	158.6	82.2	83.4	121.9	1175.5	
Monthly Inflow	cfs	1970	1333	1106	1103	1161	1456	1341	2592	2665	1337	1356	2049		
Turbine Release	kaf	87.9	85.1	87.9	75.6	68.3	75.6	73.7	93.0	100.9	109.5	108.6	97.9	1064.0	
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	87.9	85.1	87.9	75.6	68.3	75.6	73.7	93.0	100.9	109.5	108.6	97.9	1064.0	
Total Release	cfs	1430	1430	1430	1230	1230	1230	1239	1513	1696	1781	1766	1645		
Spring Flow	kaf	4.3	4.2	4.3	4.3	3.9	4.3	4.2	4.3	4.2	4.3	4.3	4.2	50.8	
Irrigation Reqmnt	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.5	11.2	21.8	27.7	26.8	18.8	106.8	
Afterbay Rels	kaf	92.2	89.3	92.2	79.9	72.2	79.9	77.9	97.3	105.1	113.8	112.9	102.1	1114.8	
Afterbay Rels	cfs	1499	1501	1499	1299	1300	1299	1309	1582	1766	1851	1836	1716		
River Release	kaf	92.2	89.3	92.2	79.9	72.2	79.9	77.4	86.1	83.3	86.1	86.1	83.3	1008.0	
River Release	cfs	1499	1501	1499	1299	1300	1299	1301	1400	1400	1400	1400	1400		
Min Release	kaf	92.2	89.3	92.2	79.9	72.2	79.9	77.4	86.1	83.3	86.1	86.1	83.3	1008.0	
End-Month Targets	kaf										1070.0				
End-Month Content	kaf	795.0	789.2	769.3	761.5	757.7	771.6	777.7	844.1	901.8	874.5	849.3	873.3		
End-Month Elevation	ft	3608.68	3607.74	3604.38	3603.02	3602.35	3604.78	3605.82	3616.04	3623.53	3620.12	3616.76	3619.96		
Net Change Content	kaf	33.2	-5.8	-19.9	-7.8	-3.8	13.9	6.1	66.4	57.7	-27.3	-25.2	24.0	111.5	
Yellowtail Power	2006	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total	
Turbine Release	kaf	87.9	85.1	87.9	75.6	68.3	75.6	73.7	93.0	100.9	109.5	108.6	97.9	1064.0	
Generation	gwh	32.628	31.762	32.640	27.915	25.160	27.907	27.316	34.966	38.821	42.358	41.617	37.509	400.599	
End-Month Power Cap	mw	257.8	257.0	254.0	252.7	252.1	254.3	255.3	264.5	271.5	268.3	265.2	268.2		
% Max Gen		15	15	15	13	13	13	13	16	19	20	19	18		
Ave kwh/af		371	373	371	369	368	369	371	376	385	387	383	383	377	
Upstream Generation	gwh	8.328	5.272	5.442	5.434	4.410	5.455	10.743	24.271	24.764	26.639	23.961	19.182	163.901	
Total Generation	gwh	40.956	37.034	38.082	33.349	29.570	33.362	38.059	59.237	63.585	68.997	65.578	56.691	564.500	

BHXAOP V1.12 Run: 26-Oct-2006 10:32  
 Based on Maximum Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont 761.8 kaf Elev 3603.07 ft					Maximum Cont 1328.4 kaf Elev 3657.00 ft					Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2006	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
Boysen Release	kaf	30.8	29.8	30.8	30.8	27.9	86.3	113.0	185.9	227.8	235.4	133.1	68.4	1200.0		
Boysen Release	cfs	501	501	501	501	502	1404	1899	3023	3828	3828	2165	1150			
Buffalo Bill Riv Flo	kaf	20.0	11.9	12.3	12.3	11.1	12.3	68.7	160.7	228.3	207.1	92.8	89.9	927.4		
Buffalo Bill Riv Flo	cfs	325	200	200	200	200	200	1155	2614	3837	3368	1509	1511			
Station Gain	kaf	72.0	50.2	33.4	33.1	34.1	85.7	59.7	120.2	240.6	45.4	16.7	59.6	850.7		
Monthly Inflow	kaf	122.8	91.9	76.5	76.2	73.1	184.3	241.4	466.8	696.7	487.9	242.6	217.9	2978.1		
Monthly Inflow	cfs	1997	1544	1244	1239	1316	2997	4057	7592	11708	7935	3946	3662			
Turbine Release	kaf	87.9	85.1	87.9	87.9	79.4	149.4	237.3	419.3	487.3	487.9	243.9	222.9	2676.2		
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	87.9	85.1	87.9	87.9	79.4	149.4	237.3	419.3	487.3	487.9	243.9	222.9	2676.2		
Total Release	cfs	1430	1430	1430	1430	1430	2430	3988	6819	8189	7935	3967	3746			
Spring Flow	kaf	4.3	4.2	4.3	4.3	3.9	4.3	4.2	4.3	4.2	4.3	4.3	4.2	50.8		
Irrigation Reqmnt	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.5	11.2	21.8	27.7	26.8	18.8	106.8		
Afterbay Rels	kaf	92.2	89.3	92.2	92.2	83.3	153.7	241.5	423.6	491.5	492.2	248.2	227.1	2727.0		
Afterbay Rels	cfs	1499	1501	1499	1499	1500	2500	4059	6889	8260	8005	4037	3817			
River Release	kaf	92.2	89.3	92.2	92.2	83.3	153.7	241.0	412.4	469.7	464.5	221.4	208.3	2620.2		
River Release	cfs	1499	1501	1499	1499	1500	2500	4050	6707	7894	7554	3601	3501			
Min Release	kaf	92.2	89.3	92.2	92.2	83.3	153.7	148.8	153.7	148.8	153.7	221.4	208.3	1637.6		
End-Month Targets	kaf						836.7			1070.0	1070.0					
End-Month Content	kaf	796.7	803.5	792.1	780.4	774.1	809.0	813.1	860.6	1070.0	1070.0	1068.7	1063.7			
End-Month Elevation	ft	3608.96	3610.04	3608.21	3606.28	3605.21	3610.90	3611.53	3618.29	3640.00	3640.00	3639.89	3639.49			
Net Change Content	kaf	34.9	6.8	-11.4	-11.7	-6.3	34.9	4.1	47.5	209.4	0.0	-1.3	-5.0	301.9		
Yellowtail Power	2006	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total		
Turbine Release	kaf	87.9	85.1	87.9	87.9	79.4	149.4	237.3	419.3	487.3	487.9	243.9	222.9	2676.2		
Generation	gwh	32.640	31.862	32.881	32.731	29.460	55.749	89.225	159.208	193.475	200.052	99.987	91.293	1048.563		
End-Month Power Cap	mw	258.1	259.1	257.4	255.7	254.7	259.8	260.4	266.6	287.5	287.5	287.4	287.0			
% Max Gen		15	15	15	15	15	26	43	74	93	93	47	44			
Ave kwh/af		371	374	374	372	371	373	376	380	397	410	410	410	392		
Upstream Generation	gwh	8.894	5.328	5.529	5.540	4.503	9.781	26.982	31.801	33.030	35.299	35.279	28.703	230.669		
Total Generation	gwh	41.534	37.190	38.410	38.271	33.963	65.530	116.207	191.009	226.505	235.351	135.266	119.996	1279.232		

# BIGHORN LAKE



WATER YEAR 2007