

# RECLAMATION

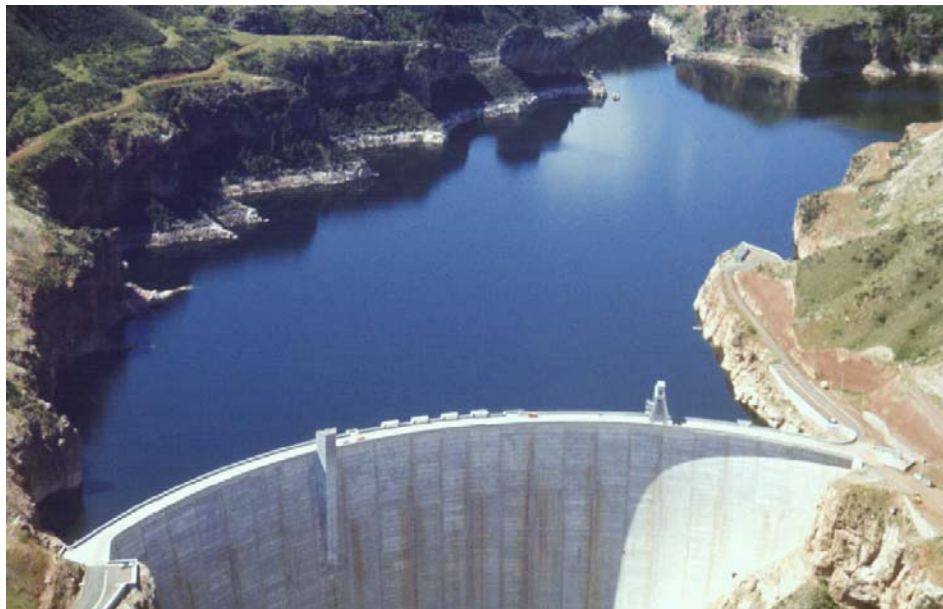
## *Managing Water in the West*

February 8, 2008

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans as prepared on February 8, 2008. Storage in Bighorn Lake at the beginning of February was about 2.7 feet higher than average. Inflow to Bighorn Lake during January was 47 percent of average, making it the 6<sup>th</sup> lowest of record for January. The April-July inflow to Bighorn Lake is forecast at 807,000 acre-feet or about 68 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  
 February 1, 2008

**Present Elevations & Storages:**

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4704.63	422,704	---
Buffalo Bill	5367.14	447,300	---
Bighorn Lake	3621.87	888,276	102

**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>
September	106.7	60
October	138.7	73
November	95.8	59
December	66.3	45
January	66.3	47

**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>
September	13.4	31
October	92.9	122
November	63.2	98
December	32.3	69
January	32.2	68

**February Forecast of April-July Runoff (1,000 Acre-Feet):**

<u>Agency</u>	<u>Gains</u>	<u>Percent of Normal</u>
<b>USBR</b>	<b>272</b>	<b>86</b>
	<u>Inflows</u>	
<b>USBR</b>	<b>807</b>	<b>68</b>

**Snowpack Conditions:**

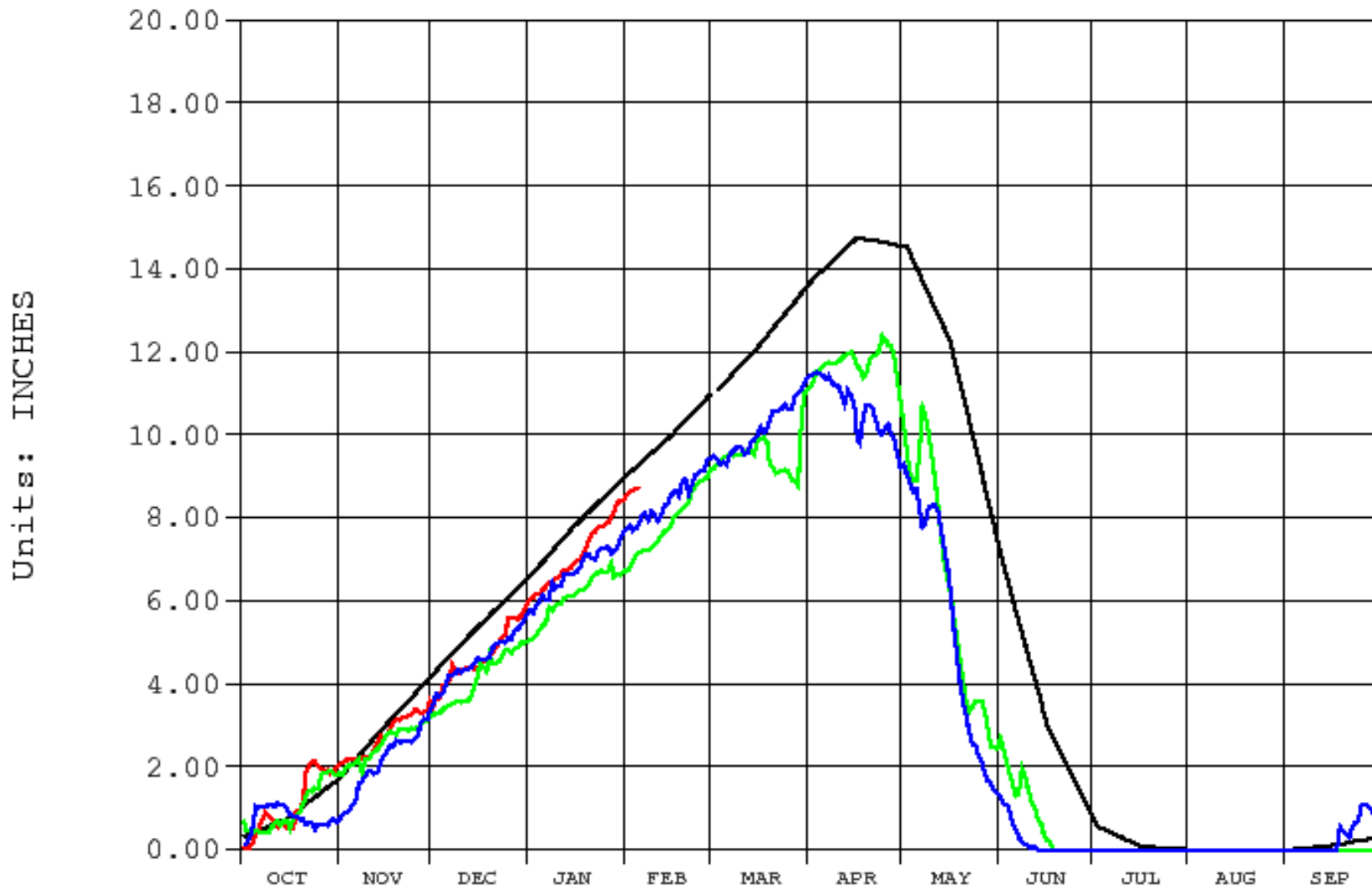
S N O W - P R E C I P I T A T I O N    U P D A T E  
 Based on Mountain Data from NRCS SNOTEL Sites  
 As of FRIDAY: FEBRUARY 1 , 2008

<u>BASIN</u> Data Site Name	<u>ELEV.</u> (Ft)	<u>SNOW WATER EQUIVALENT</u>			<u>TOTAL PRECIPITATION</u>		
		<u>Current</u>	<u>Average</u>	<u>% Avg</u>	<u>Current</u>	<u>Average</u>	<u>% Avg</u>
UPPER YELLOWSTONE RIVER BASIN							
BEARTOOTH LAKE	9360	17.2	16.2	106	16.3	14.0	116
BOX CANYON	6670	6.2	6.7	93	9.7	8.4	115
BRACKETT CREEK	7320	12.5	13.3	94	18.4	17.1	108
BURNT MTN CANYON	5880	2.3	4.0	57	6.7	9.5	71
COLE CREEK	7870	11.7	8.9	131	14.8	10.8	137
EVENING STAR	7850	5.3	9.8	54	6.4	10.4	62
FISHER CREEK	9200	19.4	19.7	98	21.8	17.6	124
MONUMENT PEAK	9100	29.0	23.8	122	26.6	24.6	108
NORTHEAST ENTRANCE	8850	15.7	14.2	111	14.8	14.6	101
PARKER PEAK	7350	5.6	7.7	73	9.3	8.9	104
PLACER BASIN	9400	17.2	14.8	116	16.5	11.1	149
	8830	11.1	11.7	95	11.9	12.6	94

PORCUPINE	6500	4.1	4.5	91	7.5	7.8	96
SACAJAWEA	6550	9.1	8.9	102	18.6	15.4	121
SHOWER FALLS	8100	14.9	14.0	106	18.4	15.6	118
S FORK SHIELDS	8100	8.7	10.7	81	13.5	12.9	105
SYLVAN LAKE	8420	14.3	15.2	94	18.6	14.8	126
SYLVAN ROAD	7120	7.3	8.8	83	15.7	13.3	118
THUMB DIVIDE	7980	11.2	11.8	95	14.1	12.7	111
TWO OCEAN PLATEAU	9240	25.3	19.0	133	21.3	18.5	115
WHITE MILL	8700	17.8	16.1	111	18.8	18.3	103
WOLVERINE	7650	5.9	8.6	69	9.2	9.2	100
YOUNTS PEAK	8350	11.5	12.0	96	12.9	11.4	113
Basin wide percent of average				101			110
WIND RIVER BASIN (WYOMING)							
BURROUGHS CREEK	8750	10.9	10.1	108	13.6	11.3	120
COLD SPRINGS	9630	4.0	6.0	67	6.9	7.1	97
DEER PARK	9700	9.3	11.7	79	13.1	14.5	90
HOBBS PARK	10100	8.4	9.8	86	9.1	8.2	111
KIRWIN	9550	8.6	7.7	112	10.0	7.6	132
LITTLE WARM	9370	6.6	7.8	85	9.6	9.1	105
OWL CREEK	8975	3.5	3.4	103	5.0	3.7	135
SOUTH PASS	9040	8.2	11.4	72	11.1	12.2	91
ST. LAWRENCE ALT	8620	3.7	4.8	77	5.6	5.7	98
TOGWOTEE PASS	9580	18.4	16.9	109	20.2	16.8	120
TOWNSEND CREEK	8700	4.6	5.6	82	7.7	7.3	105
YOUNTS PEAK	8350	11.5	12.0	96	12.9	11.4	113
Basin wide percent of average				91			109
SHOSHONE RIVER BASIN (WYOMING)							
BLACKWATER	9780	16.7	16.6	101	15.8	14.2	111
EVENING STAR	9200	19.4	19.7	98	21.8	17.6	124
MARQUETTE	8760	2.1	5.9	36	6.5	6.2	105
SYLVAN LAKE	8420	14.3	15.2	94	18.6	14.8	126
SYLVAN ROAD	7120	7.3	8.8	83	15.7	13.3	118
YOUNTS PEAK	8350	11.5	12.0	96	12.9	11.4	113
Basin wide percent of average				91			118
BIGHORN RIVER BASIN (WYOMING)							
BALD MTN.	9380	10.6	13.5	79	10.8	11.8	92
BEAR TRAP MEADOW	8200	5.5	3.5	157	6.4	5.5	116
BLACKWATER	9780	16.7	16.6	101	15.8	14.2	111
BONE SPRINGS DIV	9350	10.2	10.6	96	12.5	9.6	130
EVENING STAR	9200	19.4	19.7	98	21.8	17.6	124
GRAVE SPRINGS	8550	5.5	5.7	96	5.9	6.4	92
KIRWIN	9550	8.6	7.7	112	10.0	7.6	132
MARQUETTE	8760	2.1	5.9	36	6.5	6.2	105
MIDDLE POWDER	7760	6.3	7.2	88	5.9	8.3	71
OWL CREEK	8975	3.5	3.4	103	5.0	3.7	135
POWDER RIVER PASS	9480	7.7	7.2	107	9.6	8.3	116
SHELL CREEK	9580	10.6	9.9	107	10.7	9.3	115
SYLVAN LAKE	8420	14.3	15.2	94	18.6	14.8	126
SYLVAN ROAD	7120	7.3	8.8	83	15.7	13.3	118
TIMBER CREEK	7950	2.0	3.6	56	6.0	4.5	133
YOUNTS PEAK	8350	11.5	12.0	96	12.9	11.4	113
Basin wide percent of average				94			114

Archive Data From 1-OCT Through 30-SEP

Plotted 02/05/2008 08:03



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

SE\_AVG Snow Water Equivalent Average (inches)

2008

SE Snow Water Equivalent (inches)

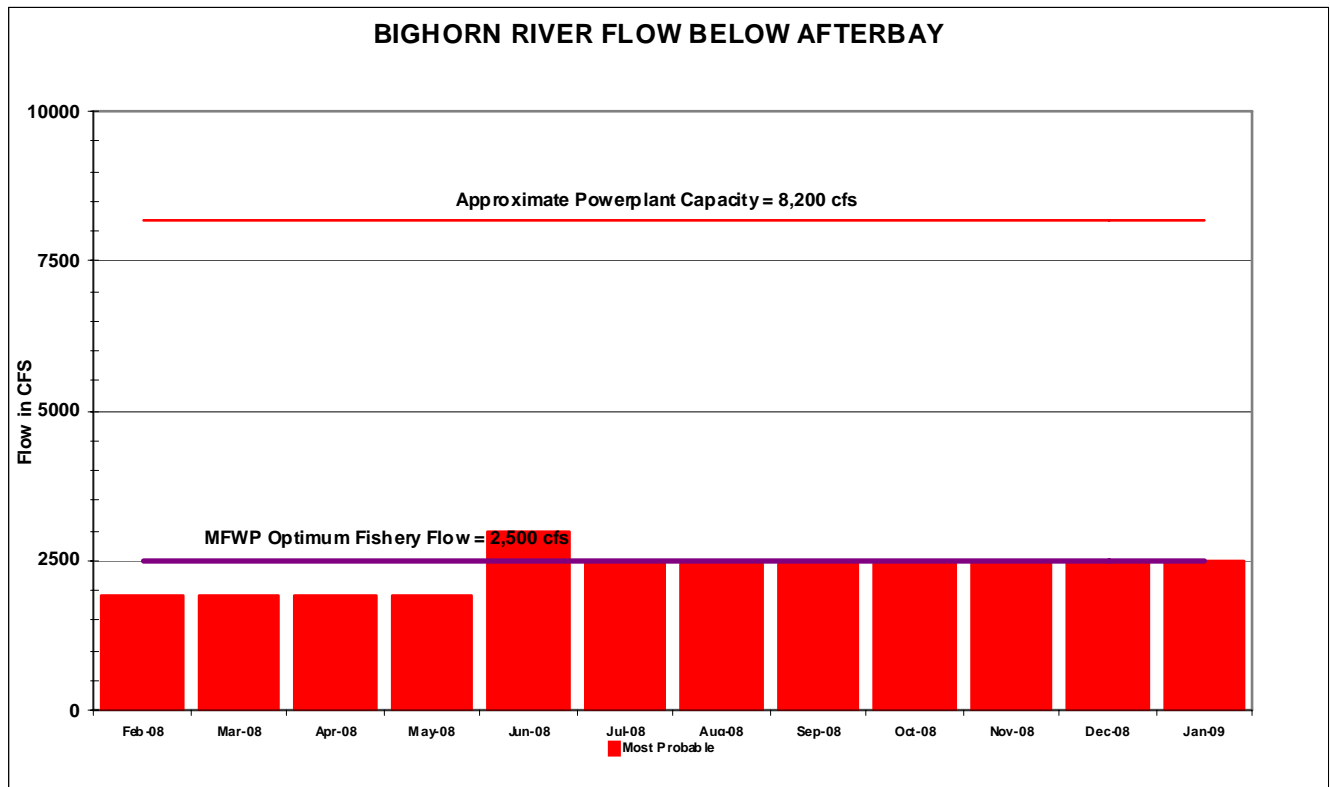
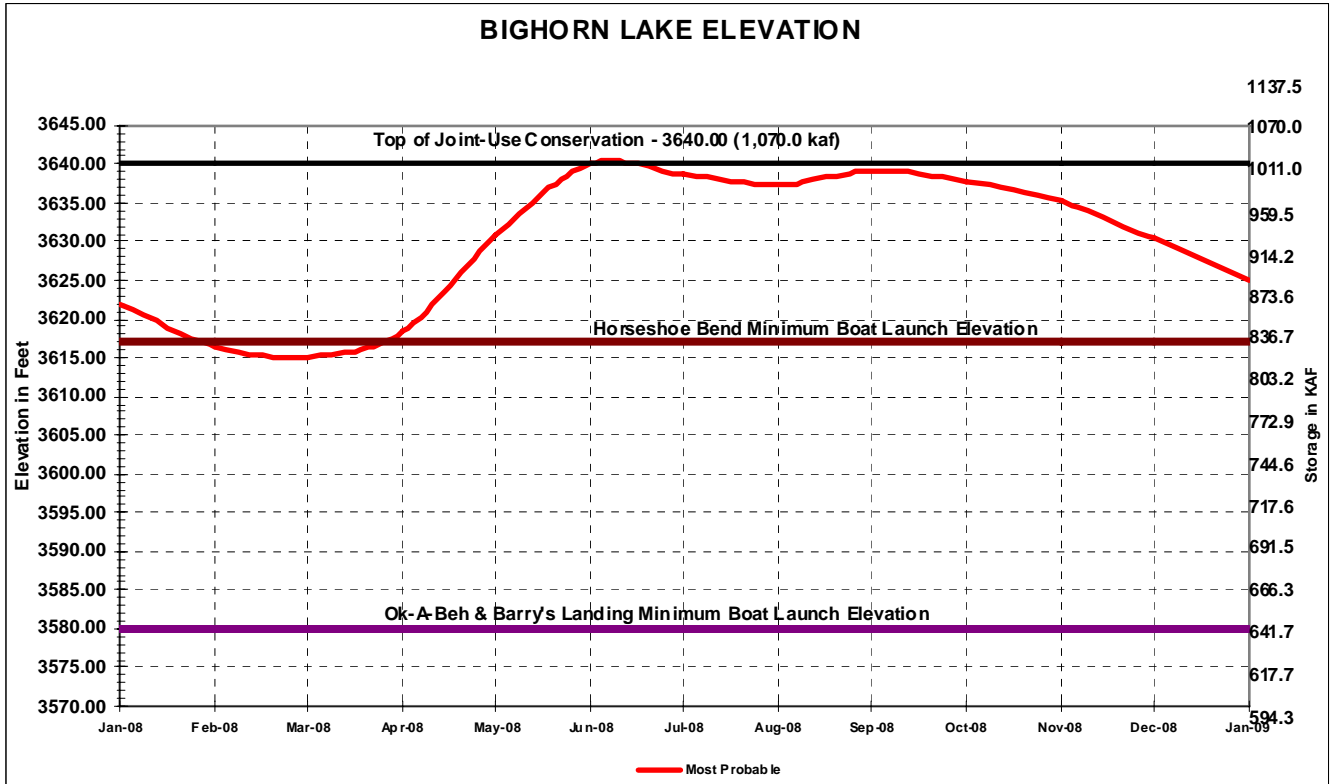
2008 2007 2006

BHXAOP V1.12 Run: 08-Feb-2008 11:32  
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont 888.3 kaf Elev 3621.87 ft				Maximum Cont 1328.4 kaf Elev 3657.00 ft				Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2008	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Boysen Release	kaf	23.0	24.6	44.6	67.6	69.9	76.9	69.2	59.5	30.7	29.8	30.7	30.7	557.2
Boysen Release	cfs	400	400	750	1099	1175	1251	1125	1000	499	501	499	499	
Buffalo Bill Riv Flo	kaf	8.6	9.2	38.7	79.9	79.1	77.8	78.0	75.5	24.9	20.8	21.5	21.5	535.5
Buffalo Bill Riv Flo	cfs	150	150	650	1299	1329	1265	1269	1269	405	350	350	350	
Station Gain	kaf	32.9	68.9	50.1	83.4	136.1	2.4	9.5	46.5	78.4	64.2	46.3	49.7	668.4
Monthly Inflow	kaf	64.5	102.7	133.4	230.9	285.1	157.1	156.7	181.5	134.0	114.8	98.5	101.9	1761.1
Monthly Inflow	cfs	1121	1670	2242	3755	4791	2555	2548	3050	2179	1929	1602	1657	
Turbine Release	kaf	105.3	112.5	109.5	123.6	184.0	173.4	172.5	159.8	149.8	144.6	149.4	149.4	1733.8
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	105.3	112.5	109.5	123.6	184.0	173.4	172.5	159.8	149.8	144.6	149.4	149.4	1733.8
Total Release	cfs	1831	1830	1840	2010	3092	2820	2805	2686	2436	2430	2430	2430	
Spring Flow	kaf	4.0	4.3	4.2	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	50.9
Irrigation Reqmnt	kaf	0.0	0.0	0.6	11.1	10.0	27.7	26.8	18.8	4.1	0.0	0.0	0.0	99.1
Afterbay Rels	kaf	109.3	116.8	113.7	127.9	188.2	177.7	176.8	164.0	154.1	148.8	153.7	153.7	1784.7
Afterbay Rels	cfs	1900	1900	1911	2080	3163	2890	2875	2756	2506	2501	2500	2500	
River Release	kaf	109.3	116.8	113.1	116.8	178.2	150.0	150.0	145.2	150.0	148.8	153.7	153.7	1685.6
River Release	cfs	1900	1900	1901	1900	2995	2440	2440	2440	2440	2501	2500	2500	
Min Release	kaf	109.3	116.8	113.1	116.8	139.8	150.0	150.0	145.2	150.0	148.8	153.7	153.7	1647.2
End-Month Targets	kaf					1070.0	1070.0							
End-Month Content	kaf	847.5	837.7	861.6	968.9	1070.0	1053.7	1037.9	1059.6	1043.8	1014.0	963.1	915.6	
End-Month Elevation	ft	3616.51	3615.14	3618.42	3630.96	3640.00	3638.68	3637.36	3639.16	3637.86	3635.27	3630.37	3625.17	
Net Change Content	kaf	-40.8	-9.8	23.9	107.3	101.1	-16.3	-15.8	21.7	-15.8	-29.8	-50.9	-47.5	27.3
Yellowtail Power	2008	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Turbine Release	kaf	105.3	112.5	109.5	123.6	184.0	173.4	172.5	159.8	149.8	144.6	149.4	149.4	1733.8
Generation	gwh	40.440	42.808	41.775	48.263	74.312	70.929	70.226	65.113	61.092	58.568	59.760	58.814	692.100
End-Month Power Cap	mw	265.0	263.7	266.8	278.6	287.5	286.2	284.9	286.7	285.4	282.8	278.0	273.0	
% Max Gen		20	20	20	23	36	33	33	31	29	28	28	27	
Ave kwh/af		384	381	382	390	404	409	407	407	408	405	400	394	399
Upstream Generation	gwh	3.607	3.900	14.944	27.704	27.967	29.874	29.237	27.478	10.437	8.152	8.440	8.438	200.178
Total Generation	gwh	44.047	46.708	56.719	75.967	102.279	100.803	99.463	92.591	71.529	66.720	68.200	67.252	892.278

# BIGHORN LAKE



WATER YEAR 2008