

# RECLAMATION

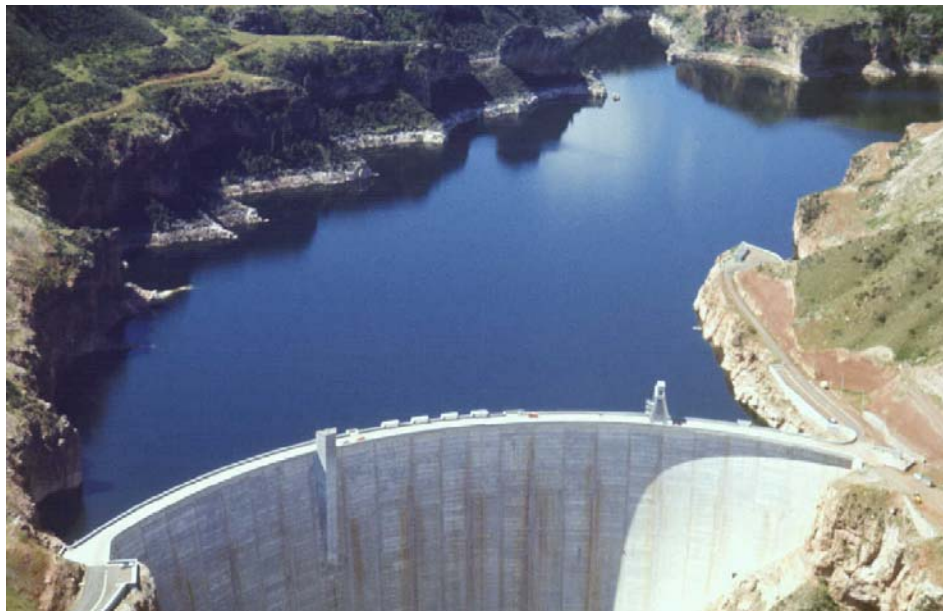
## *Managing Water in the West*

November 9, 2007

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans as prepared on November 9, 2007. Even though the inflows to Bighorn Lake improved during October, they continued to remain below normal. Since construction of the dam, the inflows improved from the 3<sup>rd</sup> lowest of record for September to the 10<sup>th</sup> lowest of record for October. The fall and winter inflow is forecast to be about 50 percent of average or the 4<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  
 November 1, 2007

**Present Elevations & Storages:**

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4702.57	397,896	---
Buffalo Bill	5363.72	424,403	---
Bighorn Lake	3633.22	992,537	98

**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>
August	91.3	54
September	106.7	60
October	138.7	73

**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>
August	-28.7	---
September	13.4	31
October	92.9	122

**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:**

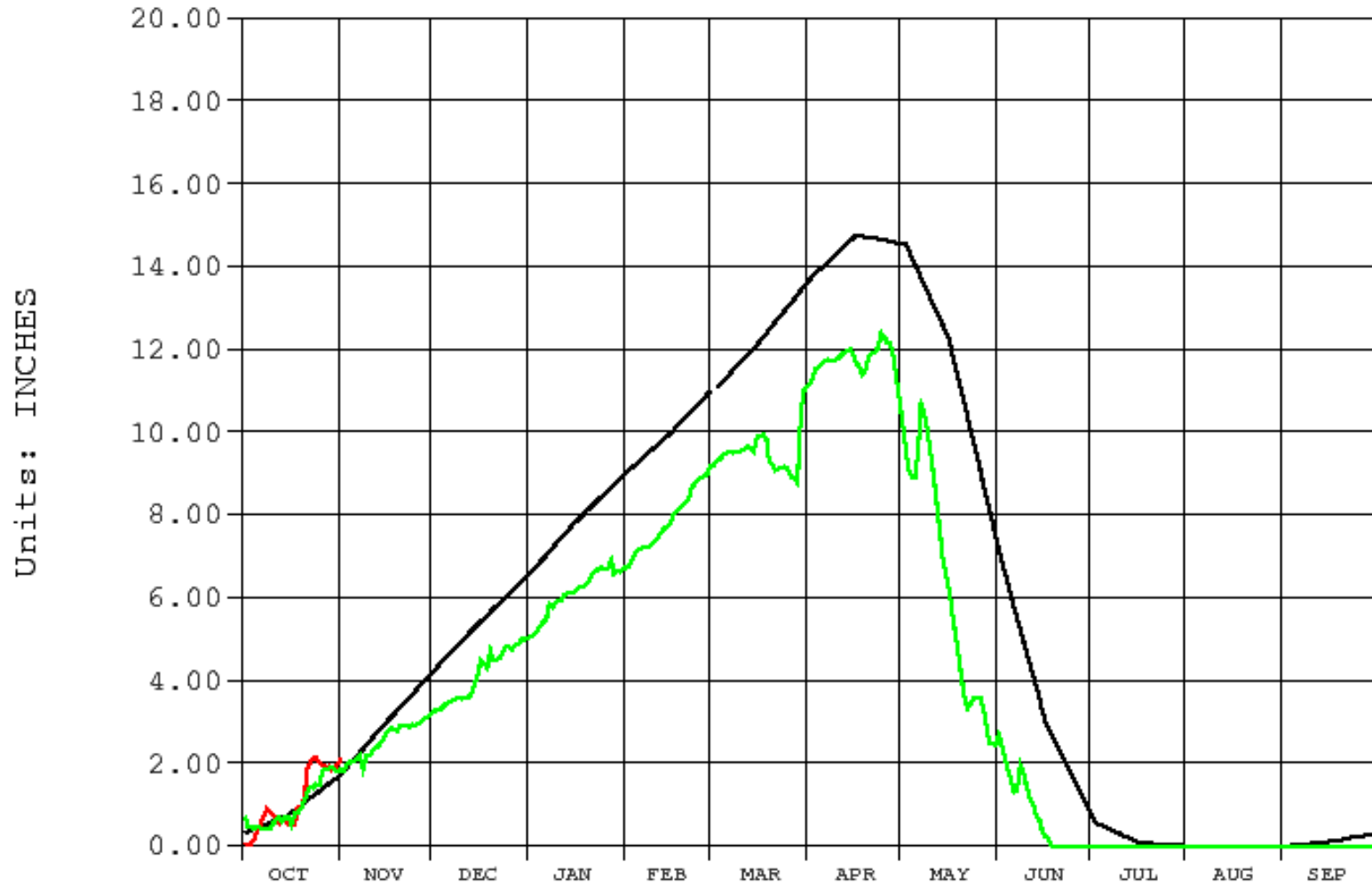
S N O W - P R E C I P I T A T I O N U P D A T E  
 Based on Mountain Data from NRCS SNOTEL Sites  
 As of THURSDAY: NOVEMBER 1 , 2007

BASIN Data Site Name	ELEV. (Ft)	SNOW WATER EQUIVALENT			TOTAL PRECIPITATION		
		Current	Average	Avg %	Current	Average	Avg %
-----							
UPPER YELLOWSTONE RIVER BASIN							
BEARTOOTH LAKE	9360	4.9	2.7	181	4.8	2.2	218
BOX CANYON	6670	.0	.4	0*	3.4	1.7	200
BRACKETT CREEK	7320	.0	1.2	0*	5.6	2.9	193
BURNT MTN	5880	.0	.2	0*	2.9	3.2	91
CANYON	7870	1.4	.7	200*	4.2	1.9	221
COLE CREEK	7850	.5	2.9	17	2.8	3.4	82
EVENING STAR	9200	4.3	2.8	154*	6.6	2.9	228
FISHER CREEK	9100	5.9	2.8	211*	7.0	3.4	206
MONUMENT PEAK	8850	3.7	2.2	168*	4.4	2.6	169
NORTHEAST ENTRANCE	7350	.0	.3	0*	3.3	1.6	206
PARKER PEAK	9400	4.7	2.6	181	5.8	2.4	242

PLACER BASIN	8830	3.1	2.5	124	4.1	3.1	132
PORCUPINE	6500	.0	.2	0*	2.0	2.0	100
SACAJAWEA	6550	.0	.4	0*	5.7	2.6	219
SHOWER FALLS	8100	3.8	2.7	141*	5.8	3.7	157
S FORK SHIELDS	8100	.3	1.7	18*	4.0	2.9	138
SYLVAN LAKE	8420	2.1	2.0	105*	6.0	2.7	222
SYLVAN ROAD	7120	.0	.5	0*	5.3	2.2	241
THUMB DIVIDE	7980	.5	.9	56*	4.5	2.1	214
TWO OCEAN PLATEAU	9240	6.2	3.2	194	6.5	3.2	203
WHITE MILL	8700	4.2	2.1	200*	5.4	2.8	193
WOLVERINE	7650	.0	.5	0*	3.7	1.9	195
YOUNTS PEAK	8350	2.0	1.4	143*	5.5	1.9	289
Basin wide percent of average				129*			184
WIND RIVER BASIN							
BURROUGHS CREEK	8750	2.1	1.0	210*	4.2	1.7	247
COLD SPRINGS	9630	.0	1.1	0	2.4	2.0	120
DEER PARK	9700	1.5	2.7	56	3.2	2.6	123
HOBBS PARK	10100	1.6	2.3	70	3.2	2.2	145
KIRWIN	9550	3.7	1.9	195	5.1	1.9	268
LITTLE WARM	9370	1.1	1.1	100*	3.1	1.8	172
OWL CREEK	8975	.9	.9	100	2.6	1.2	217
SOUTH PASS	9040	.2	1.6	13*	2.5	2.2	114
ST. LAWRENCE ALT	8620	.2	.9	22	1.5	1.8	83
TOGWOTEE PASS	9580	4.8	2.7	178*	5.9	2.9	203
TOWNSEND CREEK	8700	.1	1.1	9	2.6	2.2	118
YOUNTS PEAK	8350	2.0	1.4	143*	5.5	1.9	289
Basin wide percent of average				97			171
SHOSHONE BASIN							
BLACKWATER	9780	5.2	3.2	163	5.0	2.8	179
EVENING STAR	9200	4.3	2.8	154*	6.6	2.9	228
MARQUETTE	8760	.2	2.0	10	3.3	2.4	138
SYLVAN LAKE	8420	2.1	2.0	105*	6.0	2.7	222
SYLVAN ROAD	7120	.0	.5	0*	5.3	2.2	241
YOUNTS PEAK	8350	2.0	1.4	143*	5.5	1.9	289
Basin wide percent of average				116*			213
BIGHORN BASIN							
BALD MTN.	9380	3.2	2.8	114	3.7	2.5	148
BEAR TRAP MEADOW	8200	.8	.6	133	2.2	1.8	122
BLACKWATER	9780	5.2	3.2	163	5.0	2.8	179
BONE SPRINGS DIV	9350	2.6	2.7	96	4.1	2.6	158
EVENING STAR	9200	4.3	2.8	154*	6.6	2.9	228
GRAVE SPRINGS	8550	1.3	1.2	108	2.8	2.2	127
KIRWIN	9550	3.7	1.9	195	5.1	1.9	268
MARQUETTE	8760	.2	2.0	10	3.3	2.4	138
MIDDLE POWDER	7760	1.8	1.3	138*	2.8	2.7	104
OWL CREEK	8975	.9	.9	100	2.6	1.2	217
POWDER RIVER PASS	9480	1.7	1.3	131	3.5	2.0	175
SHELL CREEK	9580	4.4	2.7	163	5.1	2.1	243
SYLVAN LAKE	8420	2.1	2.0	105*	6.0	2.7	222
SYLVAN ROAD	7120	.0	.5	0*	5.3	2.2	241
TIMBER CREEK	7950	.3	1.1	27	3.5	1.7	206
YOUNTS PEAK	8350	2.0	1.4	143*	5.5	1.9	289
Basin wide percent of average				121			188

Archive Data From 1-OCT Through 30-SEP

Plotted 11/01/2007 12:24



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

SE\_AVG Snow Water Equivalent Average (inches)

2008

SE Snow Water Equivalent (inches)

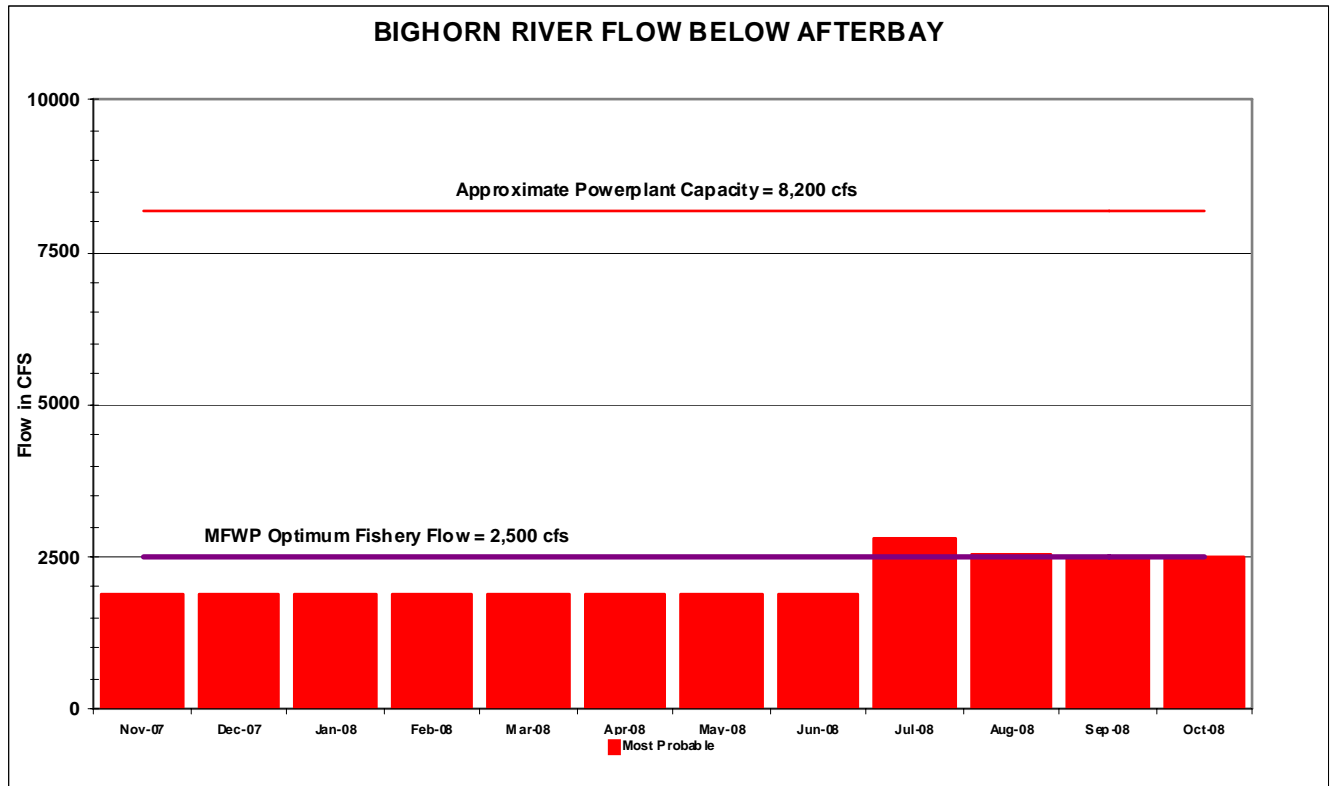
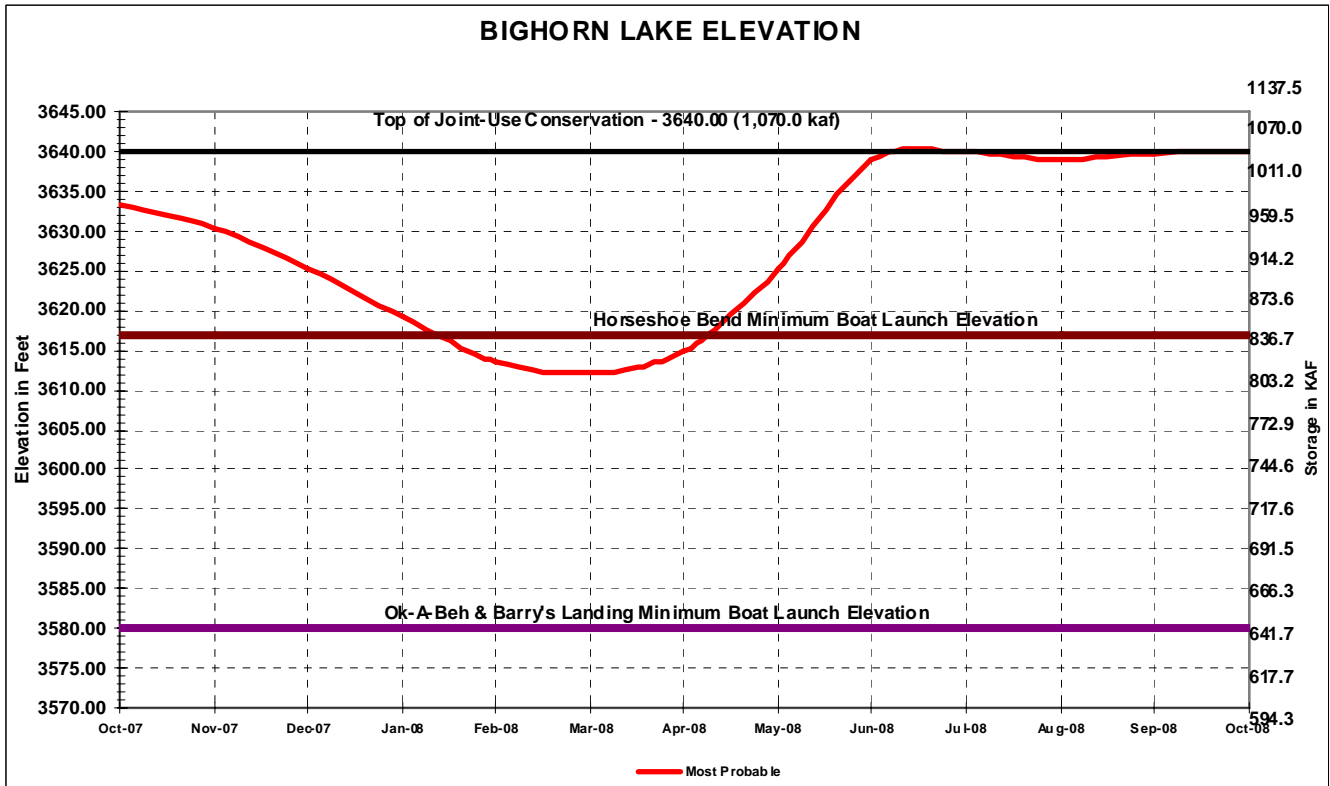
2008 2007

BHXAOP V1.12 Run: 09-Nov-2007 09:27  
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont Elev 3633.22 ft				Maximum Cont Elev 3657.00 ft				Minimum Cont Elev 3547.00 ft				Total
	2007	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
Boysen Release	kaf	23.8	24.6	24.6	23.0	24.6	50.6	67.6	69.9	116.9	97.3	68.4	61.5	652.8
Boysen Release	cfs	400	400	400	400	400	850	1099	1175	1901	1582	1150	1000	
Buffalo Bill Riv Flo	kaf	8.9	9.2	9.2	8.6	9.2	41.1	83.0	104.4	112.3	78.0	75.5	24.9	564.3
Buffalo Bill Riv Flo	cfs	150	150	150	150	150	691	1350	1755	1826	1269	1269	405	
Station Gain	kaf	47.6	31.8	29.8	32.9	68.9	37.3	53.2	84.1	-20.0	-8.4	30.0	69.4	456.6
Monthly Inflow	kaf	80.3	65.6	63.6	64.5	102.7	129.0	203.8	258.4	209.2	166.9	173.9	155.8	1673.7
Monthly Inflow	cfs	1349	1067	1034	1121	1670	2168	3314	4343	3402	2714	2922	2534	
Turbine Release	kaf	108.9	112.5	112.5	105.3	112.5	109.5	123.6	118.9	195.3	179.3	163.4	153.5	1595.2
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	108.9	112.5	112.5	105.3	112.5	109.5	123.6	118.9	195.3	179.3	163.4	153.5	1595.2
Total Release	cfs	1830	1830	1830	1831	1830	1840	2010	1998	3176	2916	2746	2496	
Spring Flow	kaf	4.2	4.3	4.3	4.0	4.3	4.2	4.3	4.2	4.3	4.3	4.2	4.3	50.9
Irrigation Reqmnt	kaf	0.0	0.0	0.0	0.0	0.0	0.6	11.1	10.0	27.7	26.8	18.8	4.1	99.1
Afterbay Rels	kaf	113.1	116.8	116.8	109.3	116.8	113.7	127.9	123.1	199.6	183.6	167.6	157.8	1646.1
Afterbay Rels	cfs	1901	1900	1900	1900	1900	1911	2080	2069	3246	2986	2817	2566	
River Release	kaf	113.1	116.8	116.8	109.3	116.8	113.1	116.8	113.1	171.9	156.8	148.8	153.7	1547.0
River Release	cfs	1901	1900	1900	1900	1900	1901	1900	1901	2796	2550	2501	2500	
Min Release	kaf	113.1	116.8	116.8	109.3	116.8	113.1	116.8	113.1	153.7	156.8	148.8	153.7	1528.8
End-Month Targets	kaf								1070.0	1070.0	1070.0	1070.0		
End-Month Content	kaf	963.3	916.4	867.5	826.7	816.9	836.4	916.6	1056.1	1070.0	1057.6	1068.1	1070.4	
End-Month Elevation	ft	3630.39	3625.26	3619.20	3613.56	3612.11	3614.96	3625.28	3638.88	3640.00	3639.00	3639.84	3640.03	
Net Change Content	kaf	-28.6	-46.9	-48.9	-40.8	-9.8	19.5	80.2	139.5	13.9	-12.4	10.5	2.3	78.5
Yellowtail Power	2007	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
Turbine Release	kaf	108.9	112.5	112.5	105.3	112.5	109.5	123.6	118.9	195.3	179.3	163.4	153.5	1595.2
Generation	gwh	43.409	44.295	43.576	40.135	42.474	41.418	47.615	47.527	79.915	73.384	66.858	62.925	633.531
End-Month Power Cap	mw	278.0	273.1	267.5	262.3	260.9	263.5	273.2	286.4	287.5	286.5	287.4	287.5	
% Max Gen		21	21	20	20	20	20	22	23	37	34	32	29	
Ave kwh/af		399	394	387	381	378	378	385	400	409	409	409	410	397
Upstream Generation	gwh	3.650	2.994	3.809	3.579	3.870	15.993	28.078	28.328	33.908	32.191	28.725	13.416	198.541
Total Generation	gwh	47.059	47.289	47.385	43.714	46.344	57.411	75.693	75.855	113.823	105.575	95.583	76.341	832.072

# BIGHORN LAKE



WATER YEAR 2008