

# RECLAMATION

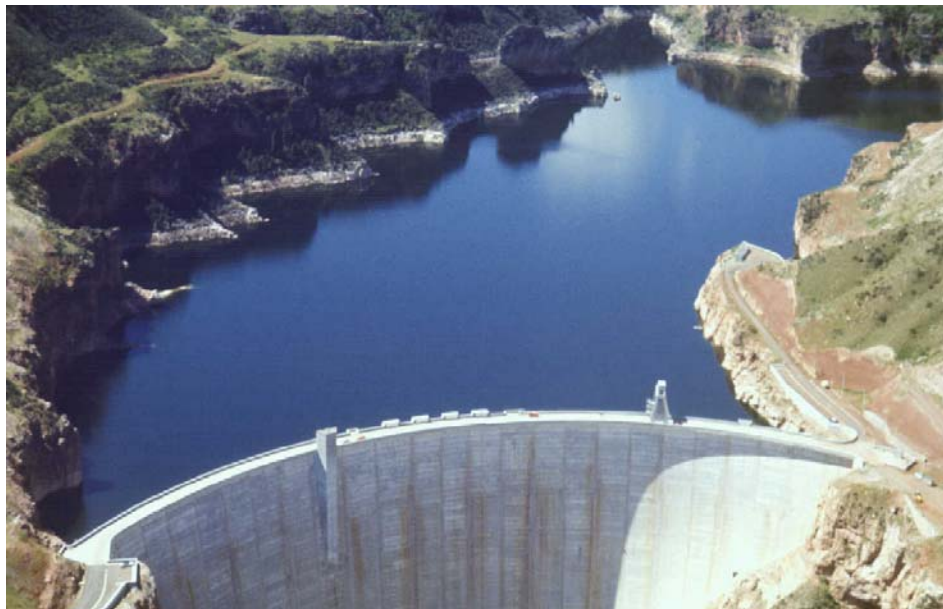
## *Managing Water in the West*

November 1, 2008

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans prepared in November 2008. Storage in Bighorn Lake on November 1 is at 105 percent of average and only 0.6 feet lower than on October 1. Based on the most current streamflow accretions, accompanied by the planned releases out of Boysen and Buffalo Bill Reservoirs, the November inflow to Bighorn Lake is forecast at 118,100 acre-feet or 77 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  
 November 1, 2008

**Present Elevations & Storages:**

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4718.51	622,506	113
Buffalo Bill	5369.06	461,285	114
Bighorn Lake	3639.21	1,060,176	105

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

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
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
August	129.6	81
September	184.6	107
<i>April-July, 2008</i>	<i>1,298.3</i>	<i>117</i>
<i>WY-2008 Total</i>	<i>2,133.2</i>	<i>91</i>
October	151.2	83

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

<u>Month</u>	<u>Gains</u>	<u>Percent of Normal</u>
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
August	-19.1	---
September	63.4	138
<i>April-July, 2008</i>	<i>350.3</i>	<i>122</i>
<i>WY-2008 Total</i>	<i>702.8</i>	<i>100</i>
October	70.3	90

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

<u>Agency</u>	<u>Gains</u>	<u>Percent of Normal</u>
<b>USBR</b>	<b>51.3</b>	<b>80</b>
	<u>Inflows</u>	
<b>USBR</b>	<b>118.1</b>	<b>77</b>

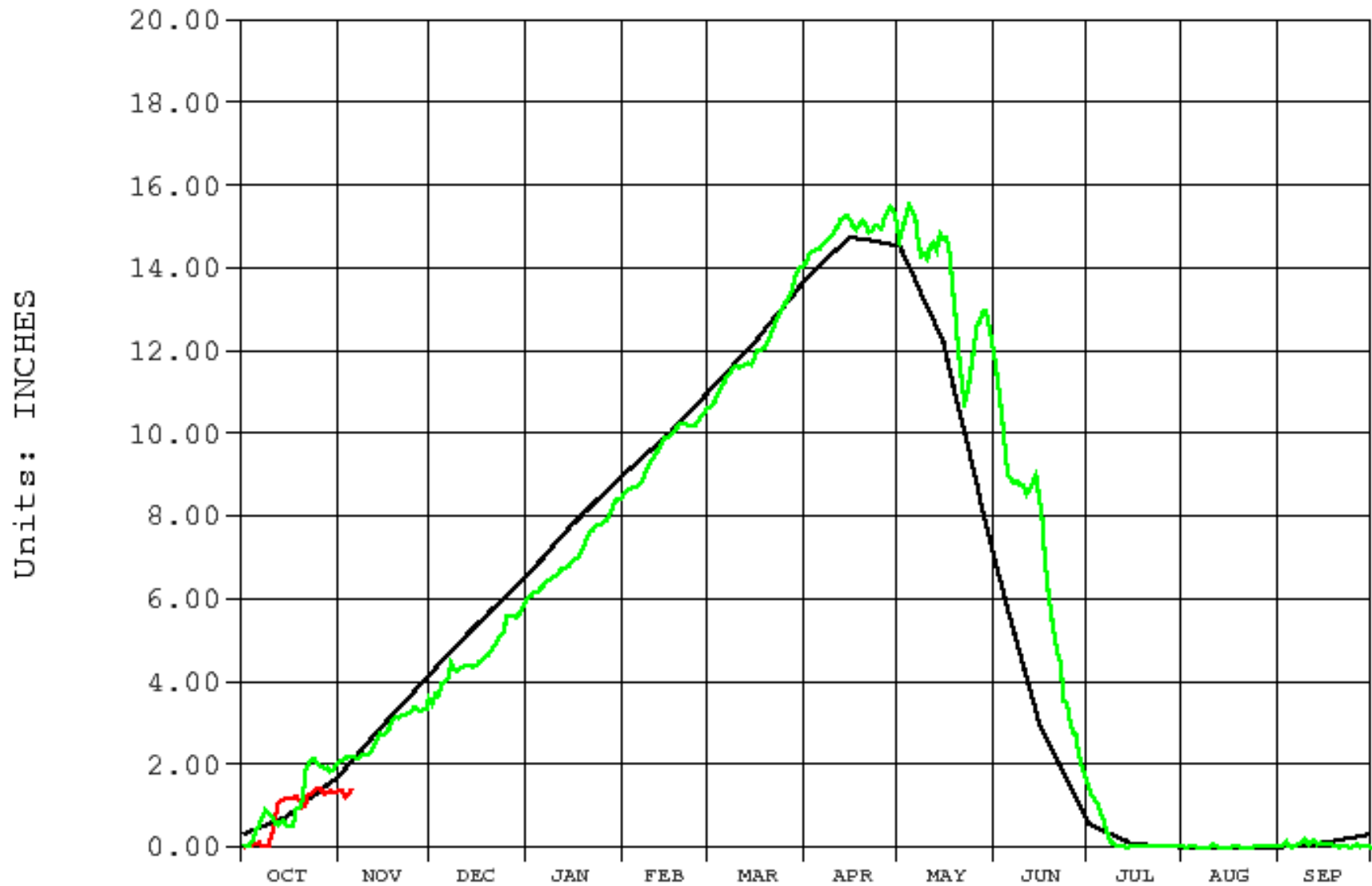
**Snowpack Conditions:**

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 SATURDAY: NOVEMBER 1 , 2008

BASIN Data Site Name	ELEV. (Ft)	SNOW WATER EQUIVALENT			TOTAL PRECIPITATION		
		Current	Average	Avg %	Current	Average	Avg %
UPPER YELLOWSTONE RIVER BASIN							
BEARTOOTH LAKE	9360	1.7	2.7	63	1.8	2.2	82

BOX CANYON	6670	.1	.4	25	1.0	1.7	59
BRACKETT CREEK	7320	1.6	1.2	133	4.3	2.9	148
BURNT MTN	5880	.2	.2	100	4.4	3.2	138
CANYON	7870	.2	.7	29	1.0	1.9	53
COLE CREEK	7850	3.9	2.9	134	4.3	3.4	126
EVENING STAR	9200	1.7	2.8	61	2.5	2.9	86
FISHER CREEK	9100	1.7	2.8	61	2.6	3.4	76
MONUMENT PEAK	8850	1.5	2.2	68	1.9	2.6	73
NORTHEAST ENTRANCE	7350	.3	.3	100	1.2	1.6	75
PARKER PEAK	9400	2.6	2.6	100	1.7	2.4	71
PLACER BASIN	8830	3.7	2.5	148	4.4	3.1	142
PORCUPINE	6500	.2	.2	100	1.4	2.0	70
SACAJAWEA	6550	.0	.4	0	4.0	2.6	154
SHOWER FALLS	8100	2.2	2.7	81	2.4	3.7	65
S FORK SHIELDS	8100	2.0	1.7	118	2.1	2.9	72
SYLVAN LAKE	8420	.2	2.0	10	1.8	2.7	67
SYLVAN ROAD	7120	.3	.5	60	1.3	2.2	59
THUMB DIVIDE	7980	.1	.9	11	2.4	2.1	114
TWO OCEAN PLATEAU	9240	3.4	3.2	106	2.1	3.2	66
WHITE MILL	8700	1.5	2.1	71	1.9	2.8	68
WOLVERINE	7650	.2	.5	40	1.5	1.9	79
YOUNTS PEAK	8350	1.9	1.4	136	1.7	1.9	89
Basin wide percent of average				85			91
WIND RIVER BASIN (WYOMING)							
BURROUGHS CREEK	8750	1.9	1.0	190	2.3	1.7	135
COLD SPRINGS	9630	1.6	1.1	145	2.5	2.0	125
DEER PARK	9700	1.5	2.7	56	2.7	2.6	104
HOBBS PARK	10100	2.2	2.3	96	2.7	2.2	123
KIRWIN	9550	1.8	1.9	95	1.9	1.9	100
LITTLE WARM	9370	1.4	1.1	127	2.1	1.8	117
OWL CREEK	8975	2.0	.9	222	2.1	1.2	175
SOUTH PASS	9040	1.7	1.6	106	3.2	2.2	145
ST. LAWRENCE ALT	8620	1.4	.9	156	2.4	1.8	133
TOGWOTEE PASS	9580	2.3	2.7	85	2.9	2.9	100
TOWNSEND CREEK	8700	2.0	1.1	182	3.0	2.2	136
YOUNTS PEAK	8350	1.9	1.4	136	1.7	1.9	89
Basin wide percent of average				116			121
SHOSHONE RIVER BASIN (WYOMING)							
BLACKWATER	9780	2.0	3.2	62	2.1	2.8	75
EVENING STAR	9200	1.7	2.8	61	2.5	2.9	86
MARQUETTE	8760	1.4	2.0	70	2.2	2.4	92
SYLVAN LAKE	8420	.2	2.0	10	1.8	2.7	67
SYLVAN ROAD	7120	.3	.5	60	1.3	2.2	59
YOUNTS PEAK	8350	1.9	1.4	136	1.7	1.9	89
Basin wide percent of average				63			78
BIGHORN RIVER BASIN (WYOMING)							
BALD MTN.	9380	2.4	2.8	86	3.0	2.5	120
BEAR TRAP MEADOW	8200	.6	.6	100	1.8	1.8	100
BLACKWATER	9780	2.0	3.2	62	2.1	2.8	75
BONE SPRINGS DIV	9350	2.2	2.7	81	2.6	2.6	100
EVENING STAR	9200	1.7	2.8	61	2.5	2.9	86
GRAVE SPRINGS	8550	.9	1.2	75	2.0	2.2	91
KIRWIN	9550	1.8	1.9	95	1.9	1.9	100
MARQUETTE	8760	1.4	2.0	70	2.2	2.4	92
MIDDLE POWDER	7760	.0	1.3	0	1.9	2.7	70
OWL CREEK	8975	2.0	.9	222	2.1	1.2	175
POWDER RIVER PASS	9480	1.3	1.3	100	2.2	2.0	110
SHELL CREEK	9580	2.5	2.7	93	2.8	2.1	133
SYLVAN LAKE	8420	.2	2.0	10	1.8	2.7	67
SYLVAN ROAD	7120	.3	.5	60	1.3	2.2	59
TIMBER CREEK	7950	1.0	1.1	91	2.1	1.7	124
YOUNTS PEAK	8350	1.9	1.4	136	1.7	1.9	89
Basin wide percent of average				78			96

Archive Data From 1-OCT Through 30-SEP  
Plotted 11/05/2008 11:21



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

SE\_AVG Snow Water Equivalent Average (inches)  
SE Snow Water Equivalent (inches)

2009

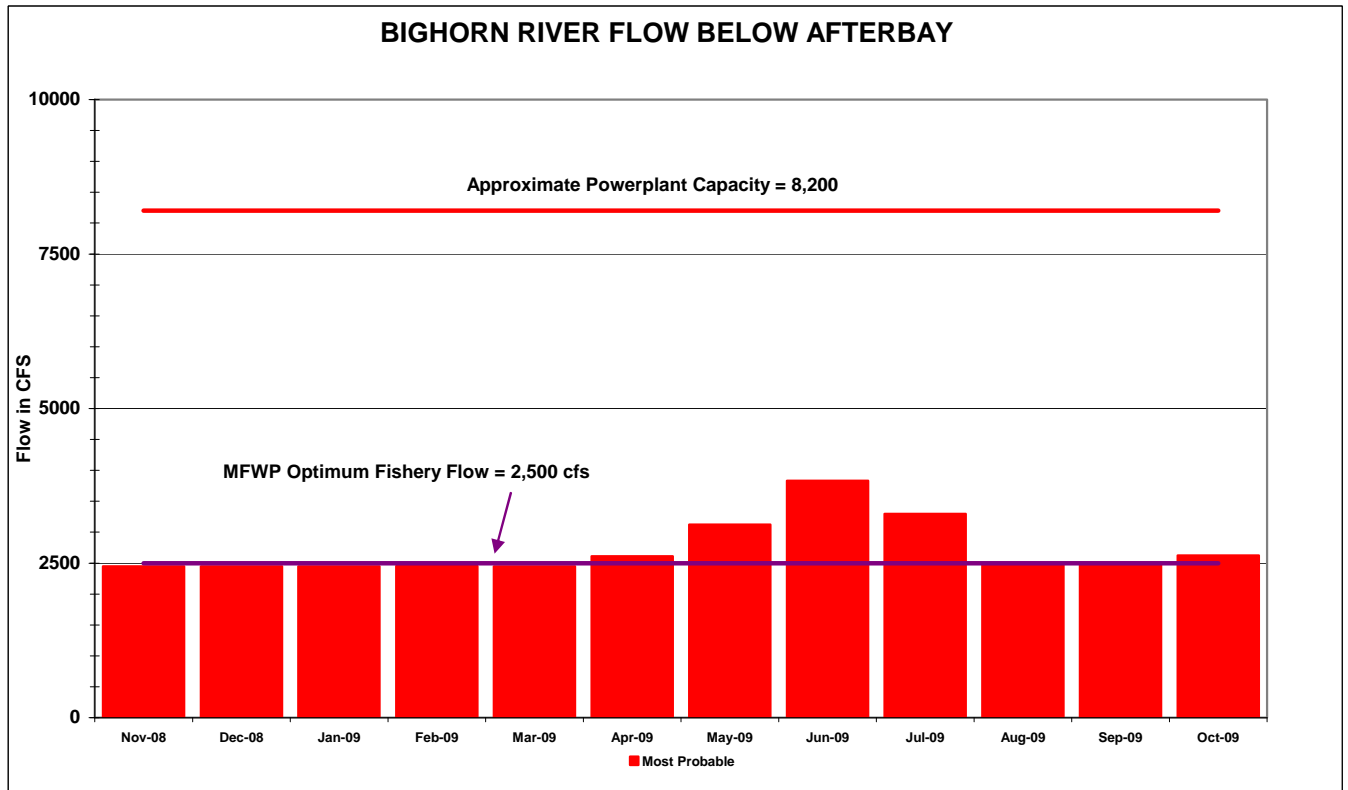
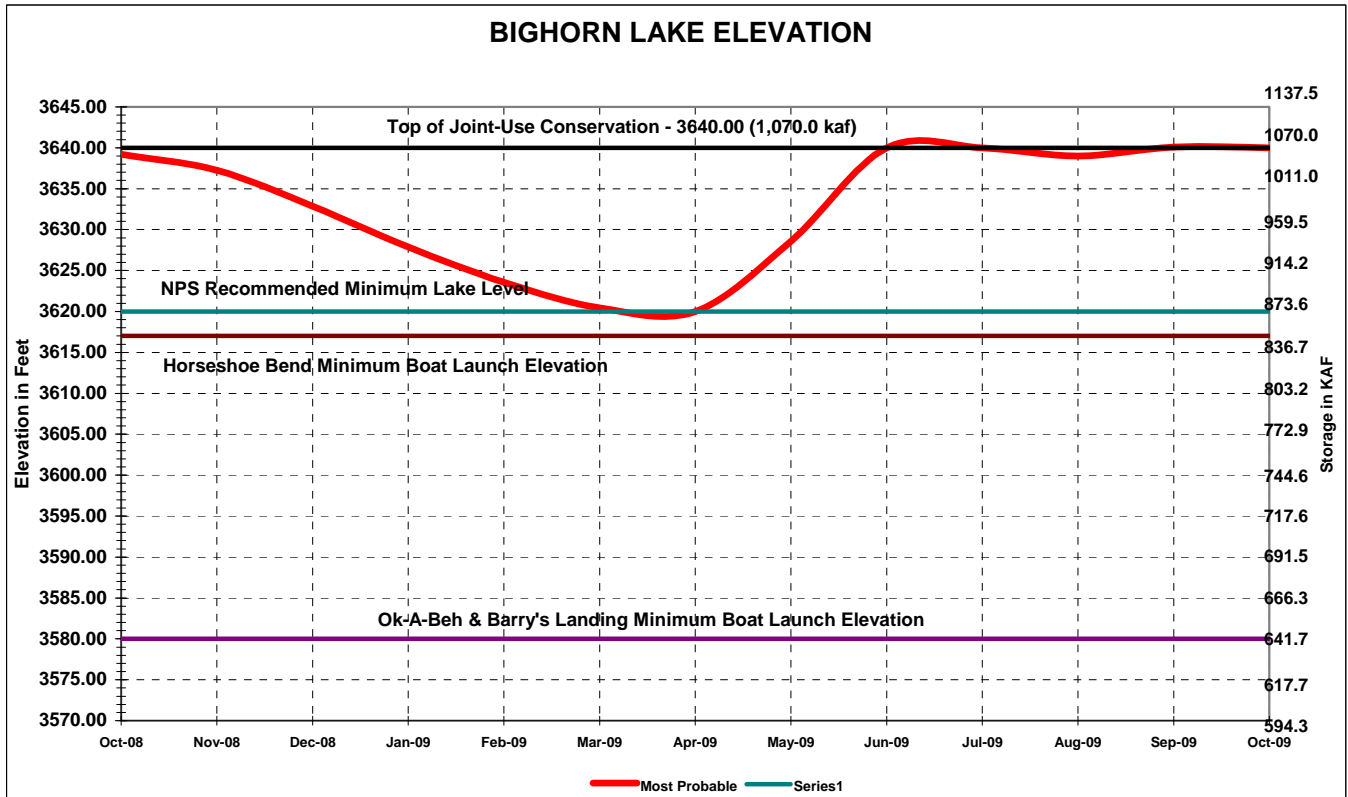
2009 2008

BHXAOP V1.12 Run: 06-Nov-2008 08:55  
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont 1060.2 kaf Elev 3639.21 ft				Maximum Cont 1328.4 kaf Elev 3657.00 ft				Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2008	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
Boysen Release	kaf	41.7	43.1	43.1	38.9	43.0	81.8	141.0	131.6	127.8	86.3	59.5	61.5	899.3
Boysen Release	cfs	701	701	701	700	699	1375	2293	2212	2078	1404	1000	1000	
Buffalo Bill Riv Flo	kaf	25.1	21.5	21.5	19.4	21.5	24.4	78.5	140.8	113.6	80.9	78.2	24.9	650.3
Buffalo Bill Riv Flo	cfs	422	350	350	349	350	410	1277	2366	1848	1316	1314	405	
Station Gain	kaf	51.3	33.3	33.0	36.5	56.8	42.0	65.5	102.0	-15.3	-3.4	39.5	73.4	514.6
Monthly Inflow	kaf	118.1	97.9	97.6	94.8	121.3	148.2	285.0	374.4	226.1	163.8	177.2	159.8	2064.2
Monthly Inflow	cfs	1985	1592	1587	1707	1973	2491	4635	6292	3677	2664	2978	2599	
Turbine Release	kaf	141.6	146.3	146.3	132.2	146.3	151.8	212.4	250.6	226.1	176.2	163.4	161.3	2054.5
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	141.6	146.3	146.3	132.2	146.3	151.8	212.4	250.6	226.1	176.2	163.4	161.3	2054.5
Total Release	cfs	2380	2379	2379	2380	2379	2551	3454	4211	3677	2866	2746	2623	
Spring Flow	kaf	4.2	4.3	4.3	3.9	4.3	4.2	4.3	4.2	4.3	4.3	4.2	4.3	50.8
Irrigation Reqmnt	kaf	0.0	0.0	0.0	0.0	0.0	0.6	24.6	26.8	27.7	26.8	18.8	4.1	129.4
Afterbay Rels	kaf	145.8	150.6	150.6	136.1	150.6	156.0	216.7	254.8	230.4	180.5	167.6	165.6	2105.3
Afterbay Rels	cfs	2450	2449	2449	2451	2449	2622	3524	4282	3747	2936	2817	2693	
River Release	kaf	145.8	150.6	150.6	136.1	150.6	155.4	192.1	228.0	202.7	153.7	148.8	161.5	1975.9
River Release	cfs	2450	2449	2449	2451	2449	2612	3124	3832	3297	2500	2501	2627	
Min Release	kaf	145.8	150.6	150.6	136.1	150.6	148.8	153.7	148.8	153.7	153.7	148.8	153.7	1794.9
End-Month Targets	kaf						873.6		1070.0					
End-Month Content	kaf	1036.7	988.3	939.6	902.2	877.2	873.6	946.2	1070.0	1070.0	1057.6	1071.4	1069.9	
End-Month Elevation	ft	3637.26	3632.87	3627.88	3623.58	3620.46	3620.00	3628.59	3640.00	3640.00	3639.00	3640.11	3639.99	
Net Change Content	kaf	-23.5	-48.4	-48.7	-37.4	-25.0	-3.6	72.6	123.8	0.0	-12.4	13.8	-1.5	9.7
Yellowtail Power	2008	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
Turbine Release	kaf	141.6	146.3	146.3	132.2	146.3	151.8	212.4	250.6	226.1	176.2	163.4	161.3	2054.5
Generation	gwh	57.692	58.960	58.061	51.721	56.624	58.456	82.786	100.856	92.707	72.116	66.891	66.150	823.020
End-Month Power Cap	mw	284.8	280.4	275.6	271.6	268.7	268.2	276.3	287.5	287.5	286.5	287.6	287.5	
% Max Gen		28	28	27	27	26	28	39	49	43	34	32	31	
Ave kwh/af		407	403	397	391	387	385	390	402	410	409	409	410	401
Upstream Generation	gwh	10.416	9.500	9.476	7.632	8.916	14.405	34.218	34.142	34.866	31.169	27.819	13.346	235.905
Total Generation	gwh	68.108	68.460	67.537	59.353	65.540	72.861	117.004	134.998	127.573	103.285	94.710	79.496	1058.925

# BIGHORN LAKE



# WATER YEAR 2009