

RECLAMATION

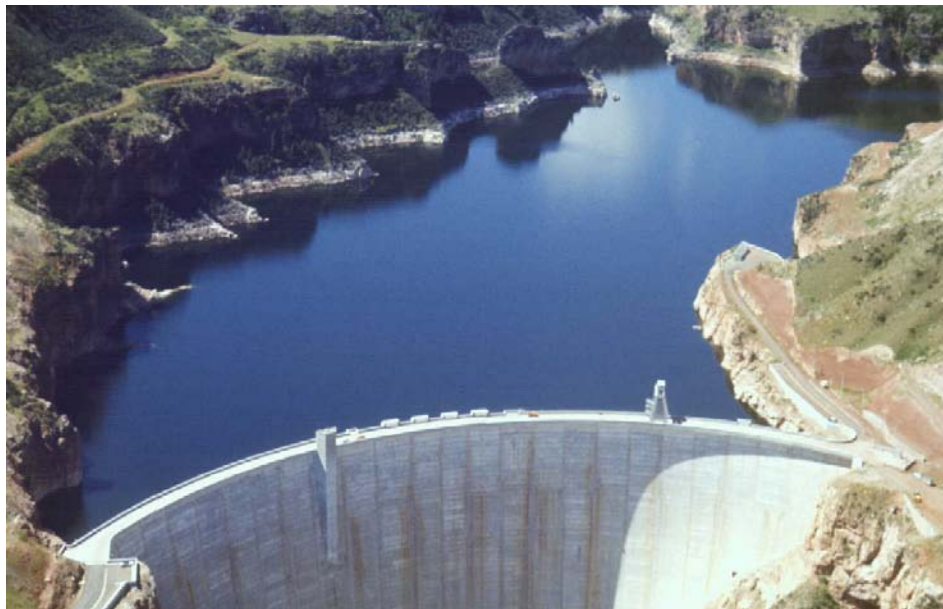
Managing Water in the West

February 10, 2010

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans prepared in February. Storage in Bighorn Lake on February 1 was 110 percent of average and 10.45 feet below the top of the joint-use pool. It was also 3.18 feet lower than on January 1. Snowpack conditions in the Bighorn Basin were 69 percent of average on February 1. Based on the high elevation snowpack, streamflow accretions, and the planned releases out of Boysen and Buffalo Bill Reservoirs, the water supply forecast prepared in February indicates the April-July inflow to Bighorn Lake to be about 57 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, 2010

Present Elevations & Storages:

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4717.71	609,056	110
Buffalo Bill	5366.14	440,800	105
Bighorn Lake	3629.55	955,219	110

Actual Inflows (1,000 Acre-Feet):

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
<i>April-July, 2009</i>	<i>1,656.6</i>	<i>149</i>
<i>WY-2009 Total</i>	<i>2,729.7</i>	<i>116</i>
October	180.7	99
November	141.4	92
December	111.8	81
January	134.4	101

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, 2009</i>	<i>343.0</i>	<i>119</i>
<i>WY-2009 Total</i>	<i>703.2</i>	<i>104</i>
October	69.0	97
November	61.1	98
December	34.2	79
January	56.9	123

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

<u>Agency</u>	<u>Inflows</u>	<u>Percent of Normal</u>
USBR	634.2	57

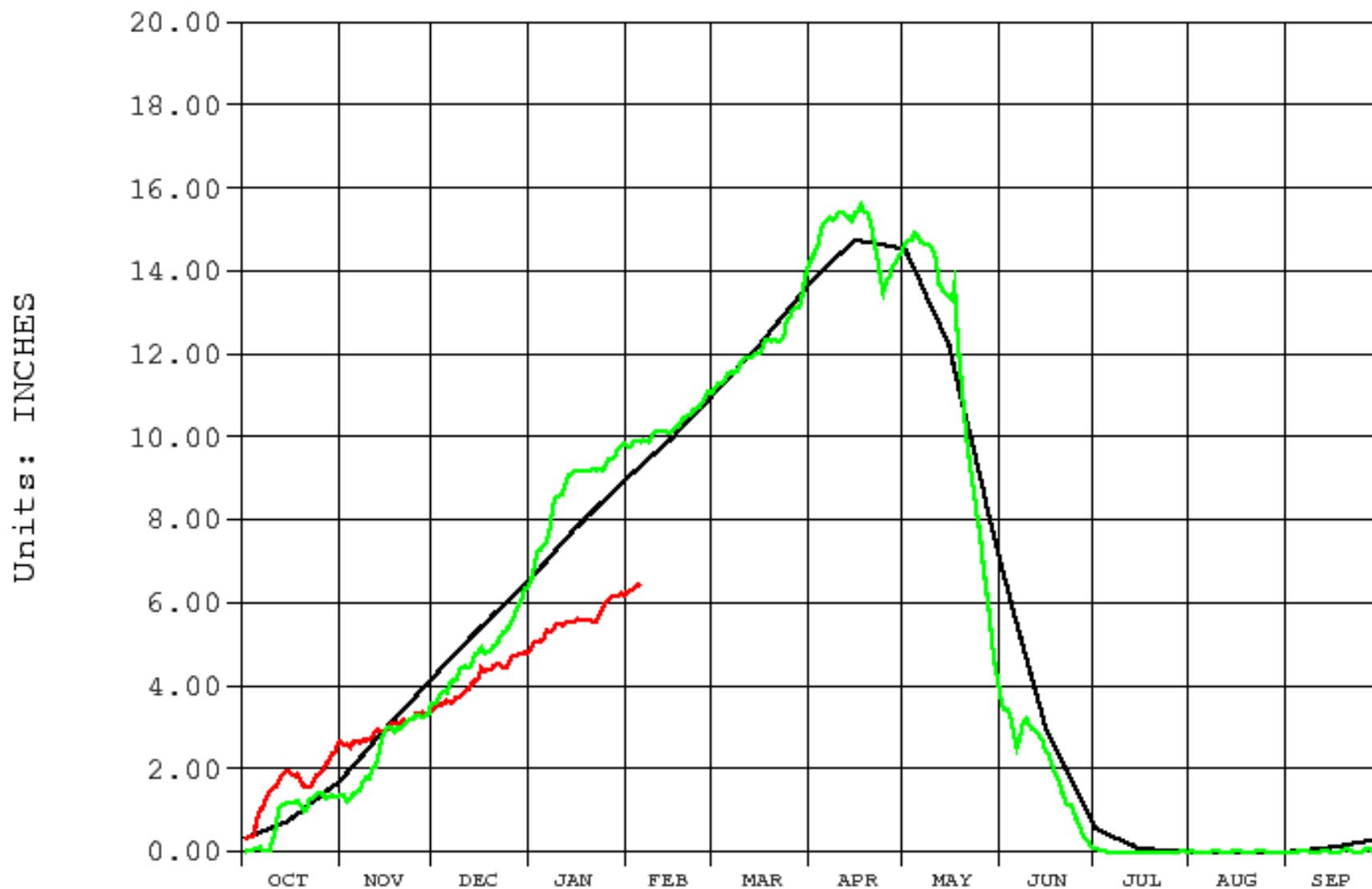
Snowpack Conditions:

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 MONDAY: FEBRUARY 1 , 2010

<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	10.3	16.2	64	9.2	14.0	66
BOX CANYON	6670	3.9	6.7	58	6.9	8.4	82
BRACKETT CREEK	7320	12.2	13.3	92	16.0	17.1	94
BURNT MTN	5880	2.7	4.0	68	7.6	9.5	80
CANYON	7870	6.1	8.9	69	7.7	10.8	71
COLE CREEK	7850	8.8	9.8	90	6.9	10.4	66
EAST BOULDER MINE	6335	3.0	-M	*	7.8	-M	*
EVENING STAR	9200	13.3	19.7	68	14.4	17.6	82
FISHER CREEK	9100	16.9	23.8	71	16.5	24.6	67
MONUMENT PEAK	8850	10.9	14.2	77	10.5	14.6	72
NORTHEAST ENTRANCE	7350	3.9	7.7	51	6.7	8.9	75
PARKER PEAK	9400	12.5	14.8	84	9.0	11.1	81
PLACER BASIN	8830	9.9	11.7	85	11.2	12.6	89
PORCUPINE	6500	3.4	4.5	76	7.2	7.8	92
SACAJAWEA	6550	8.0	8.9	90	14.9	15.4	97

SHOWER FALLS	8100	12.3	14.0	88	12.7	15.6	81
S FORK SHIELDS	8100	9.8	10.7	92	13.5	12.9	105
SYLVAN LAKE	8420	9.0	15.2	59	11.2	14.8	76
SYLVAN ROAD	7120	4.8	8.8	55	8.4	13.3	63
THUMB DIVIDE	7980	6.1	11.8	52	9.0	12.7	71
TWO OCEAN PLATEAU	9240	14.5	19.0	76	11.6	18.5	63
WHITE MILL	8700	12.1	16.1	75	11.3	18.3	62
WOLVERINE	7650	5.2	8.6	60	5.1	9.2	55
YOUNTS PEAK	8350	6.8	12.0	57	5.6	11.4	49
Basin wide percent of average				73			75
WIND RIVER BASIN (WYOMING)							
BURROUGHS CREEK	8750	5.7	10.1	56	4.6	11.3	41
COLD SPRINGS	9630	3.7	6.0	62	4.6	7.1	65
DEER PARK	9700	9.2	11.7	79	10.6	14.5	73
HOBBS PARK	10100	7.9	9.8	81	7.3	8.2	89
KIRWIN	9550	5.1	7.7	66	4.6	7.6	61
LITTLE WARM	9370	4.3	7.8	55	4.8	9.1	53
OWL CREEK	8975	3.7	3.4	109	3.0	3.7	81
SOUTH PASS	9040	8.1	11.4	71	8.8	12.2	72
ST. LAWRENCE ALT	8620	3.2	4.8	67	5.1	5.7	89
TOGWOTEE PASS	9580	11.2	16.9	66	11.3	16.8	67
TOWNSEND CREEK	8700	5.5	5.6	98	7.2	7.3	99
YOUNTS PEAK	8350	6.8	12.0	57	5.6	11.4	49
Basin wide percent of average				69			67
SHOSHONE RIVER BASIN (WYOMING)							
BLACKWATER	9780	11.4	16.6	69	10.4	14.2	73
EVENING STAR	9200	13.3	19.7	68	14.4	17.6	82
MARQUETTE	8760	3.7	5.9	63	4.6	6.2	74
SYLVAN LAKE	8420	9.0	15.2	59	11.2	14.8	76
SYLVAN ROAD	7120	4.8	8.8	55	8.4	13.3	63
YOUNTS PEAK	8350	6.8	12.0	57	5.6	11.4	49
Basin wide percent of average				63			70
BIGHORN RIVER BASIN (WYOMING)							
BALD MTN.	9380	8.9	13.5	66	6.7	11.8	57
BEAR TRAP MEADOW	8200	2.8	3.5	80	3.4	5.5	62
BLACKWATER	9780	11.4	16.6	69	10.4	14.2	73
BONE SPRINGS DIV	9350	7.7	10.6	73	6.6	9.6	69
EVENING STAR	9200	13.3	19.7	68	14.4	17.6	82
GRAVE SPRINGS	8550	5.0	5.7	88	6.2	6.4	97
KIRWIN	9550	5.1	7.7	66	4.6	7.6	61
MARQUETTE	8760	3.7	5.9	63	4.6	6.2	74
MIDDLE POWDER	7760	6.1	7.2	85	5.4	8.3	65
OWL CREEK	8975	3.7	3.4	109	3.0	3.7	81
POWDER RIVER PASS	9480	5.0	7.2	69	5.3	8.3	64
SHELL CREEK	9580	8.0	9.9	81	7.1	9.3	76
SYLVAN LAKE	8420	9.0	15.2	59	11.2	14.8	76
SYLVAN ROAD	7120	4.8	8.8	55	8.4	13.3	63
TIMBER CREEK	7950	1.8	3.6	50	3.3	4.5	73
YOUNTS PEAK	8350	6.8	12.0	57	5.6	11.4	49
Basin wide percent of average				69			70

Archive Data From 1-OCT Through 30-SEP
Plotted 02/05/2010 18:17



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

SE_AVG Snow Water Equivalent Average (inches)

2010

SE Snow Water Equivalent (inches)

2010 2009

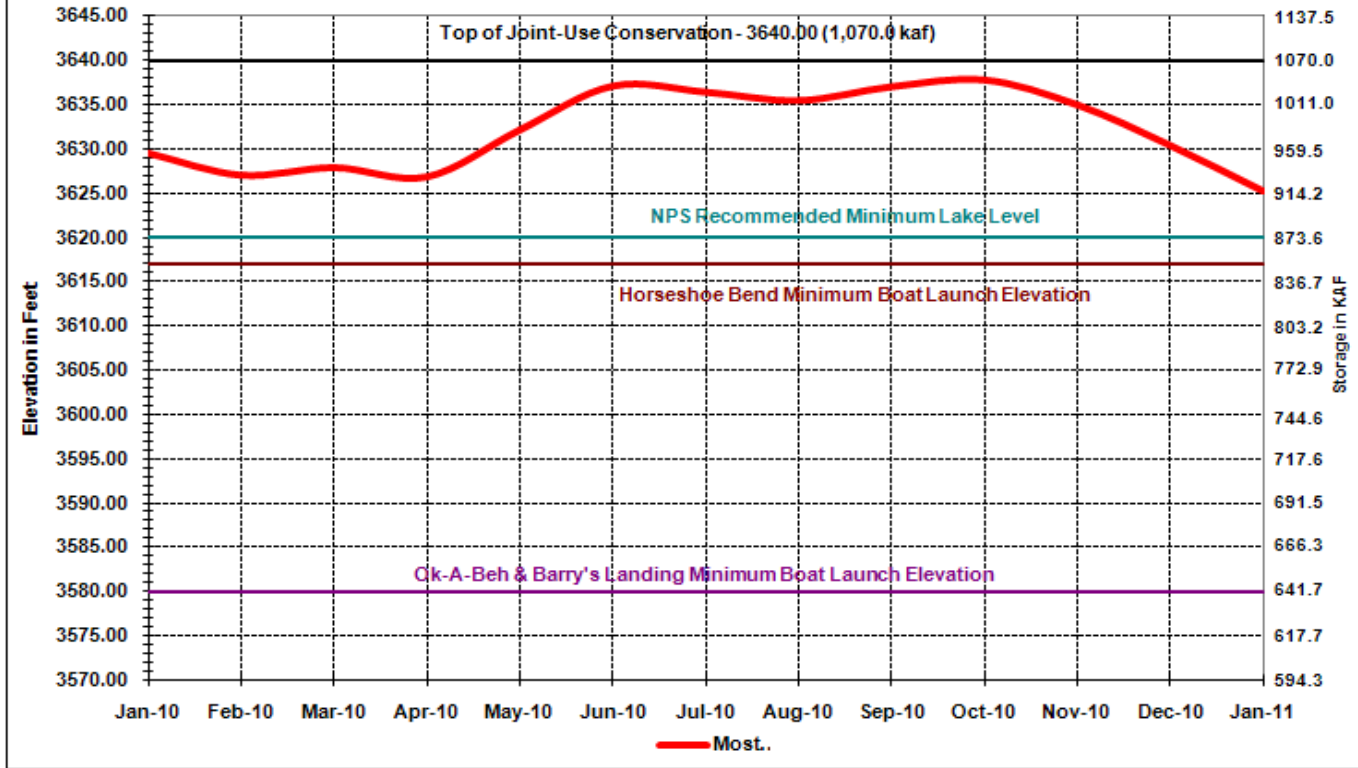
BHXAOP V1.12 Run: 10-Feb-2010 10:25
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

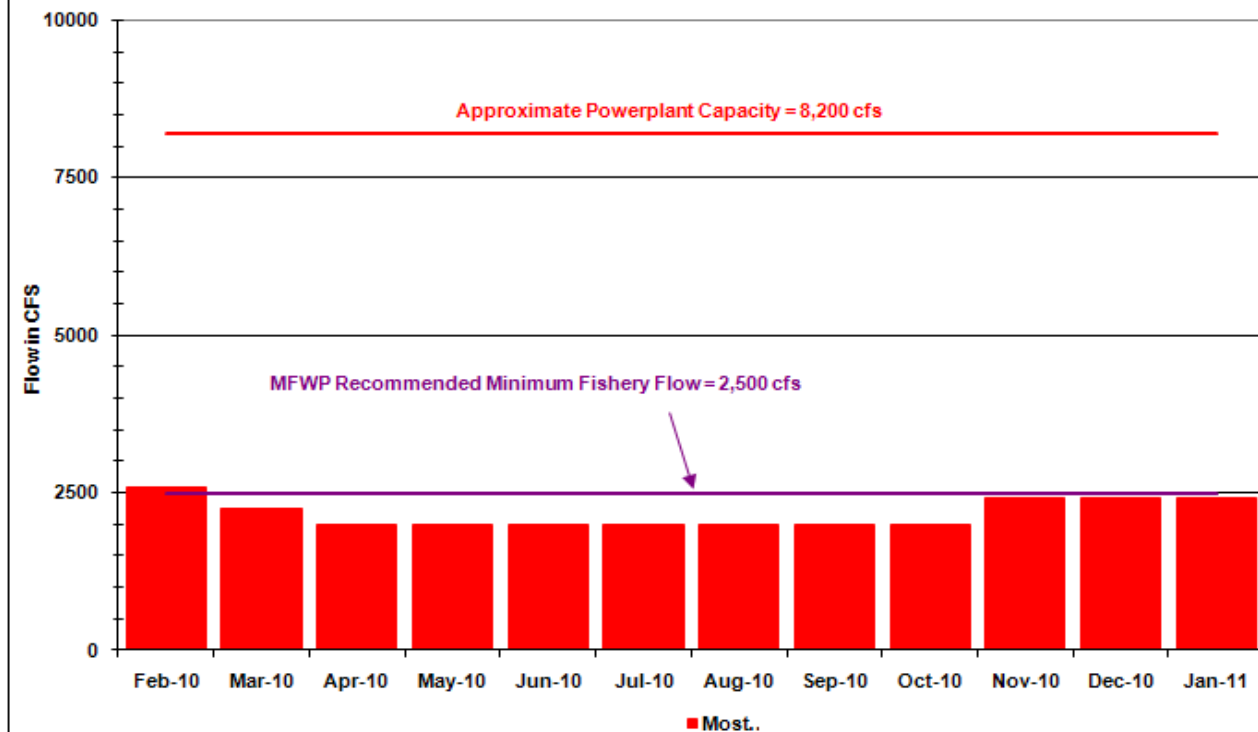
Bighorn Reservoir		Initial Cont 955.2 kaf Elev 3629.55 ft				Maximum Cont 1328.4 kaf Elev 3657.00 ft				Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2010	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Boysen Release	kaf	50.1	55.4	53.6	70.7	72.9	79.9	72.2	62.5	52.3	47.7	49.2	49.2	715.7
Boysen Release	cfs	902	901	901	1150	1225	1299	1174	1050	851	802	800	800	
Buffalo Bill Riv Flo	kaf	19.7	21.8	31.7	101.2	105.0	118.7	104.3	82.3	28.3	12.2	12.6	12.6	650.4
Buffalo Bill Riv Flo	cfs	355	355	533	1646	1765	1930	1696	1383	460	205	205	205	
Station Gain	kaf	47.6	64.6	20.7	22.0	17.8	-60.0	-41.9	6.6	51.2	47.2	34.4	34.7	244.9
Monthly Inflow	kaf	117.4	141.8	106.0	193.9	195.7	138.6	134.6	151.4	131.8	107.1	96.2	96.5	1611.0
Monthly Inflow	cfs	2114	2306	1781	3153	3289	2254	2189	2544	2144	1800	1565	1569	
Turbine Release	kaf	140.5	134.0	115.4	143.3	141.6	146.4	145.5	133.6	122.8	139.1	143.8	143.8	1649.8
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	140.5	134.0	115.4	143.3	141.6	146.4	145.5	133.6	122.8	139.1	143.8	143.8	1649.8
Total Release	cfs	2530	2179	1939	2331	2380	2381	2366	2245	1997	2338	2339	2339	
Spring Flow	kaf	3.9	4.3	4.2	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	50.8
Irrigation Reqmnt	kaf	0.0	0.0	0.6	24.6	26.8	27.7	26.8	18.8	4.1	0.0	0.0	0.0	129.4
Afterbay Rels	kaf	144.4	138.3	119.6	147.6	145.8	150.7	149.8	137.8	127.1	143.3	148.1	148.1	1700.6
Afterbay Rels	cfs	2600	2249	2010	2400	2450	2451	2436	2316	2067	2408	2409	2409	
River Release	kaf	144.4	138.3	119.0	123.0	119.0	123.0	123.0	119.0	123.0	143.3	148.1	148.1	1571.2
River Release	cfs	2600	2249	2000	2000	2000	2000	2000	2000	2000	2408	2409	2409	
Min Release	kaf	144.4	138.3	119.0	123.0	119.0	123.0	123.0	119.0	123.0	119.0	123.0	123.0	1496.7
End-Month Targets	kaf						1070.0			1070.0				
End-Month Content	kaf	932.1	939.9	930.5	981.1	1035.2	1027.4	1016.5	1034.3	1043.3	1011.3	963.7	916.4	
End-Month Elevation	ft	3627.05	3627.91	3626.87	3632.17	3637.13	3636.45	3635.49	3637.05	3637.82	3635.02	3630.43	3625.26	
Net Change Content	kaf	-23.1	7.8	-9.4	50.6	54.1	-7.8	-10.9	17.8	9.0	-32.0	-47.6	-47.3	-38.8
Yellowtail Power	2010	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Turbine Release	kaf	140.5	134.0	115.4	143.3	141.6	146.4	145.5	133.6	122.8	139.1	143.8	143.8	1649.8
Generation	gwh	55.389	52.693	45.366	56.720	56.989	59.341	58.808	54.055	49.888	56.313	57.501	56.623	659.686
End-Month Power Cap	mw	274.8	275.6	274.6	279.7	284.6	284.0	283.0	284.5	285.3	282.5	278.0	273.1	
% Max Gen		29	25	22	26	27	28	27	26	23	27	27	26	
Ave kwh/af		394	393	393	396	402	405	404	405	406	405	400	394	400
Upstream Generation	gwh	8.828	10.376	11.908	25.577	25.885	28.587	26.090	21.704	10.903	7.189	7.427	7.409	191.883
Total Generation	gwh	64.217	63.069	57.274	82.297	82.874	87.928	84.898	75.759	60.791	63.502	64.928	64.032	851.569

BIGHORN LAKE

BIGHORN LAKE ELEVATION



BIGHORN RIVER FLOW BELOW AFTERBAY



WATER YEAR 2010