

RECLAMATION

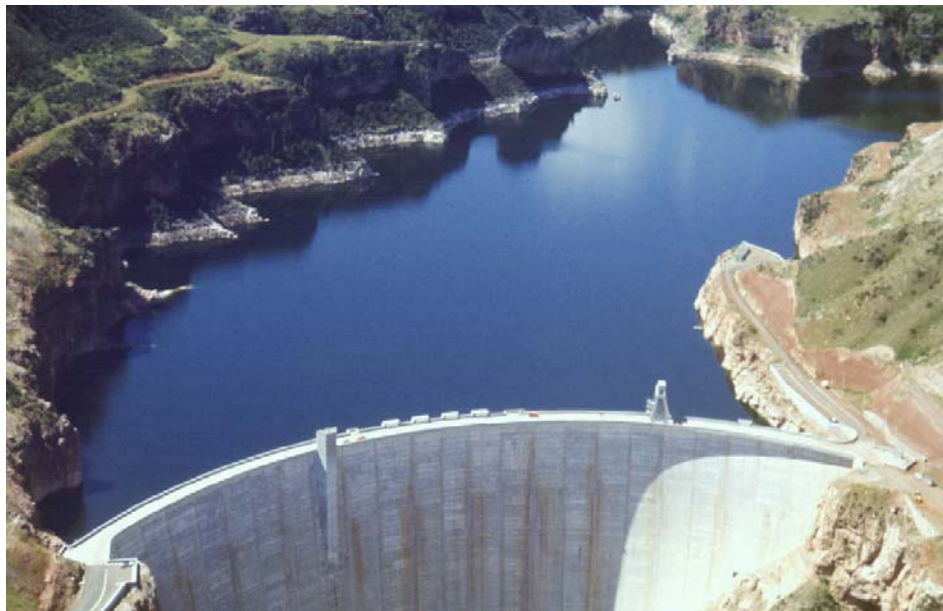
Managing Water in the West

March 4, 2010

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans prepared in March. Storage in Bighorn Lake on March 1 was 112 percent of average and 12 feet below the top of the joint-use pool. It was also 1.6 feet lower than on February 1. Snowpack conditions in the Bighorn Basin were 66 percent of average on March 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 March indicates the April-July inflow to Bighorn Lake to be about 53 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
 March 1, 2010

Present Elevations & Storages:

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4716.59	590,717	109
Buffalo Bill	5364.92	432,311	105
Bighorn Lake	3627.97	940,456	112

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
February	120.8	89

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	53.8	101

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

<u>Agency</u>	<u>Inflows</u>	<u>Percent of Normal</u>
USBR	590.8	53

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: MARCH 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	11.5	19.7	58	10.7	17.1	63
BOX CANYON	6670	4.8	8.5	56	7.9	10.2	77
BRACKETT CREEK	7320	16.1	17.0	95	19.7	20.6	96
BURNT MTN	5880	4.3	5.0	86	9.2	11.3	81
CANYON	7870	7.0	11.3	62	8.7	13.0	67
COLE CREEK	7850	10.9	12.0	91	8.4	12.4	68
EAST BOULDER MINE	6335	3.6	-M	*	8.6	-M	*
EVENING STAR	9200	14.9	25.0	60	16.4	21.8	75
FISHER CREEK	9100	19.2	29.6	65	18.7	30.6	61
MONUMENT PEAK	8850	12.9	17.2	75	12.5	17.7	71
NORTHEAST ENTRANCE	7350	5.0	9.7	52	7.7	10.8	71
PARKER PEAK	9400	14.7	18.2	81	10.7	13.7	78
PLACER BASIN	8830	11.6	14.2	82	12.9	15.1	85
PORCUPINE	6500	4.8	5.8	83	8.7	9.4	93
SACAJAWEA	6550	12.3	12.0	103	19.0	18.5	103
SHOWER FALLS	8100	15.3	17.4	88	15.9	19.1	83

S FORK SHIELDS	8100	13.2	13.6	97	16.7	15.8	106
SYLVAN LAKE	8420	10.8	18.8	57	13.1	17.9	73
SYLVAN ROAD	7120	5.5	11.4	48	9.2	15.6	59
THUMB DIVIDE	7980	6.8	15.4	44	9.6	16.0	60
TWO OCEAN PLATEAU	9240	15.7	23.3	67	12.9	23.4	55
WHITE MILL	8700	13.7	20.3	67	12.7	22.7	56
WOLVERINE	7650	6.0	10.6	57	5.8	11.2	52
YOUNTS PEAK	8350	7.6	14.6	52	6.4	13.6	47

Basin wide percent of average				70			72
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WIND RIVER BASIN (WYOMING)

BURROUGHS CREEK	8750	6.5	12.6	52	5.0	13.7	36
COLD SPRINGS	9630	4.1	7.2	57	5.0	8.4	60
DEER PARK	9700	10.1	14.4	70	11.7	17.8	66
HOBBS PARK	10100	8.7	11.9	73	8.2	9.9	83
KIRWIN	9550	5.6	9.1	62	5.1	9.2	55
LITTLE WARM	9370	5.0	9.5	53	5.7	10.9	52
OWL CREEK	8975	4.5	4.1	110	3.7	4.4	84
SOUTH PASS	9040	8.8	14.0	63	9.6	15.0	64
ST. LAWRENCE ALT	8620	3.8	5.9	64	5.8	7.0	83
TOGWOTEE PASS	9580	13.5	20.7	65	13.6	20.7	66
TOWNSEND CREEK	8700	6.3	6.9	91	8.1	8.9	91
YOUNTS PEAK	8350	7.6	14.6	52	6.4	13.6	47

Basin wide percent of average				65			63
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SHOSHONE RIVER BASIN (WYOMING)

BLACKWATER	9780	12.3	20.4	60	11.4	17.2	66
EVENING STAR	9200	14.9	25.0	60	16.4	21.8	75
MARQUETTE	8760	4.3	6.9	62	5.1	7.5	68
SYLVAN LAKE	8420	10.8	18.8	57	13.1	17.9	73
SYLVAN ROAD	7120	5.5	11.4	48	9.2	15.6	59
YOUNTS PEAK	8350	7.6	14.6	52	6.4	13.6	47

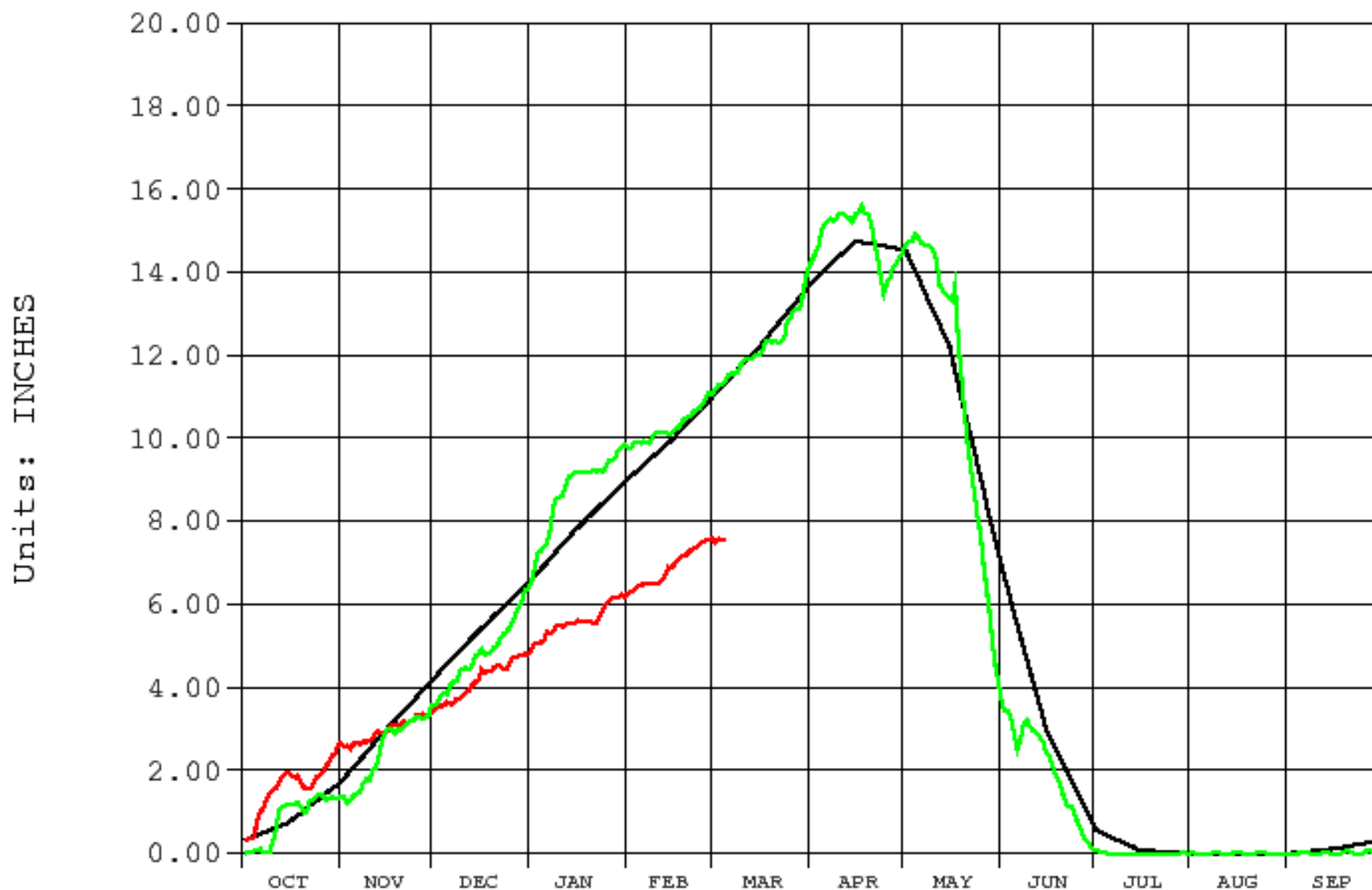
Basin wide percent of average				57			66
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BIGHORN RIVER BASIN (WYOMING)

BALD MTN.	9380	11.7	16.0	73	9.0	14.1	64
BEAR TRAP MEADOW	8200	4.1	4.3	95	4.5	6.4	70
BLACKWATER	9780	12.3	20.4	60	11.4	17.2	66
BONE SPRINGS DIV	9350	9.1	13.2	69	7.9	11.6	68
EVENING STAR	9200	14.9	25.0	60	16.4	21.8	75
GRAVE SPRINGS	8550	6.9	7.3	95	7.8	7.8	100
KIRWIN	9550	5.6	9.1	62	5.1	9.2	55
MARQUETTE	8760	4.3	6.9	62	5.1	7.5	68
MIDDLE POWDER	7760	7.7	9.0	86	6.3	9.6	66
OWL CREEK	8975	4.5	4.1	110	3.7	4.4	84
POWDER RIVER PASS	9480	-M	8.7	*	-M	10.0	*
SHELL CREEK	9580	9.5	11.8	81	8.5	10.8	79
SYLVAN LAKE	8420	10.8	18.8	57	13.1	17.9	73
SYLVAN ROAD	7120	5.5	11.4	48	9.2	15.6	59
TIMBER CREEK	7950	2.2	4.2	52	3.8	5.4	70
YOUNTS PEAK	8350	7.6	14.6	52	6.4	13.6	47

Basin wide percent of average				66			68
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Archive Data From 1-OCT Through 30-SEP
Plotted 03/04/2010 11:42



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

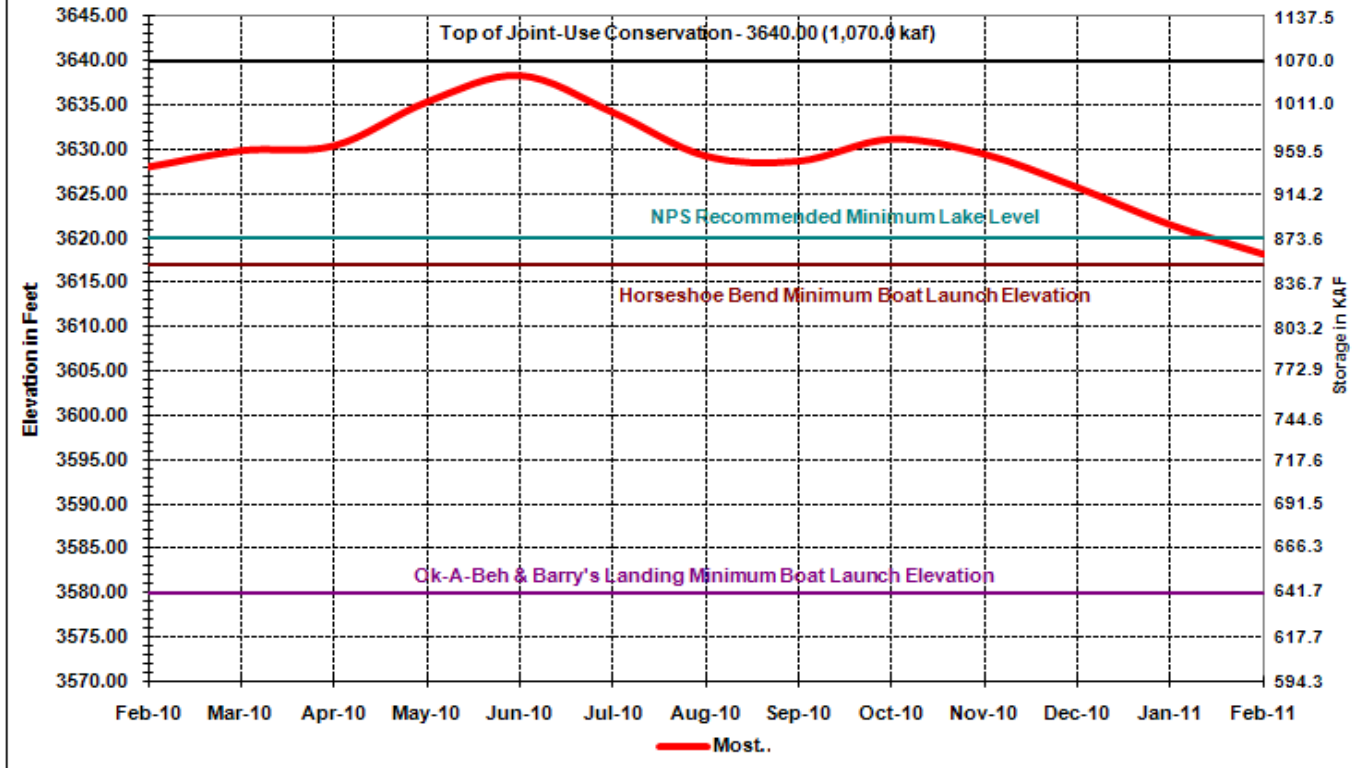
BHXAOP V1.12 Run: 04-Mar-2010 11:44
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

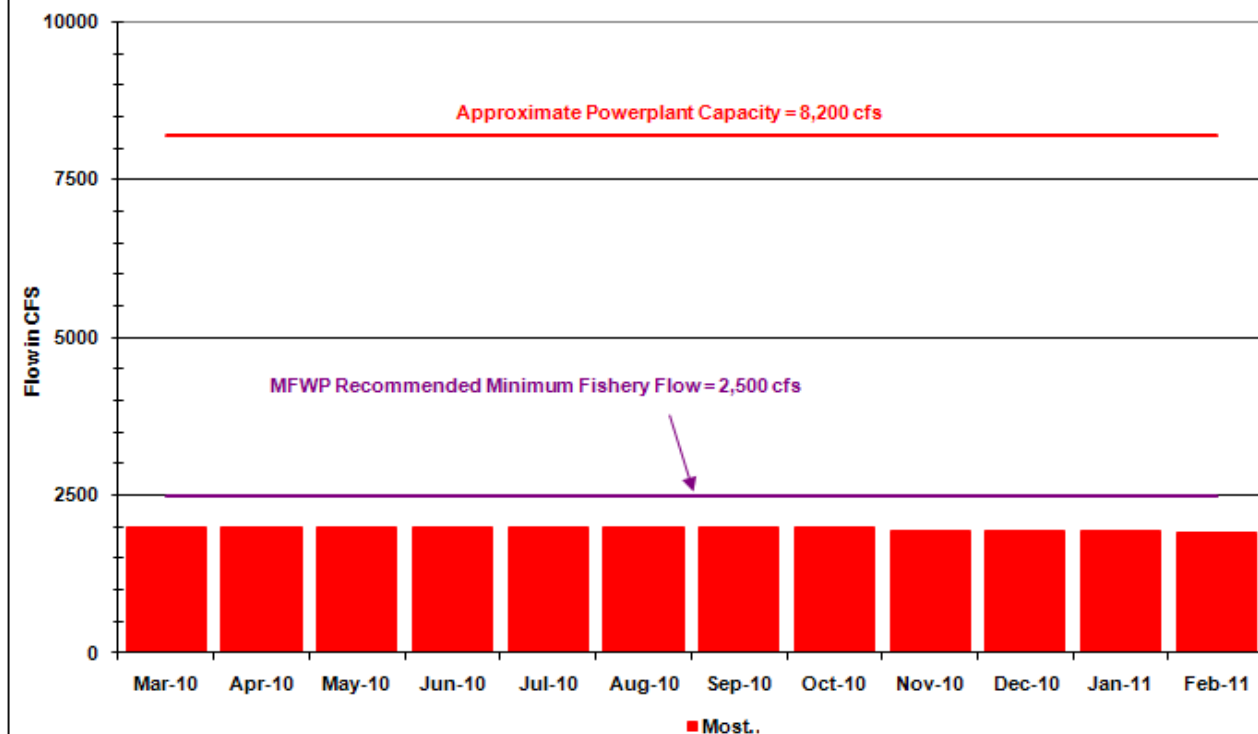
Bighorn Reservoir		Initial Cont 940.5 kaf Elev 3627.97 ft				Maximum Cont 1328.4 kaf Elev 3657.00 ft				Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2010	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	
Boysen Release	kaf	49.6	50.6	70.7	72.9	79.9	72.2	62.5	52.3	35.8	36.9	36.9	33.4	653.7
Boysen Release	cfs	807	850	1150	1225	1299	1174	1050	851	602	600	600	601	
Buffalo Bill Riv Flo	kaf	21.8	31.7	101.2	105.0	118.7	104.3	82.3	26.7	9.2	9.5	9.5	8.6	628.5
Buffalo Bill Riv Flo	cfs	355	533	1646	1765	1930	1696	1383	434	155	155	155	155	
Station Gain	kaf	64.6	38.4	22.9	-1.4	-99.8	-80.8	-16.8	67.8	48.9	33.4	32.5	35.3	145.0
Monthly Inflow	kaf	136.0	120.7	194.8	176.5	98.8	95.7	128.0	146.8	93.9	79.8	78.9	77.3	1427.2
Monthly Inflow	cfs	2212	2028	3168	2966	1607	1556	2151	2387	1578	1298	1283	1392	
Turbine Release	kaf	118.7	115.4	143.3	141.6	146.4	145.5	133.6	122.8	110.3	114.0	114.0	102.9	1508.5
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	118.7	115.4	143.3	141.6	146.4	145.5	133.6	122.8	110.3	114.0	114.0	102.9	1508.5
Total Release	cfs	1930	1939	2331	2380	2381	2366	2245	1997	1854	1854	1854	1853	
Spring Flow	kaf	4.3	4.2	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	3.9	50.8
Irrigation Reqmnt	kaf	0.0	0.6	24.6	26.8	27.7	26.8	18.8	4.1	0.0	0.0	0.0	0.0	129.4
Afterbay Rels	kaf	123.0	119.6	147.6	145.8	150.7	149.8	137.8	127.1	114.5	118.3	118.3	106.8	1559.3
Afterbay Rels	cfs	2000	2010	2400	2450	2451	2436	2316	2067	1924	1924	1924	1923	
River Release	kaf	123.0	119.0	123.0	119.0	123.0	123.0	119.0	123.0	114.5	118.3	118.3	106.8	1429.9
River Release	cfs	2000	2000	2000	2000	2000	2000	2000	2000	1924	1924	1924	1923	
Min Release	kaf	123.0	119.0	123.0	119.0	123.0	123.0	119.0	123.0	89.3	92.2	92.2	83.3	1329.0
End-Month Targets	kaf					1070.0			1070.0					
End-Month Content	kaf	957.8	963.1	1014.6	1049.5	1001.9	952.1	946.5	970.5	954.1	919.9	884.8	859.2	
End-Month Elevation	ft	3629.82	3630.37	3635.32	3638.33	3634.16	3629.22	3628.62	3631.12	3629.43	3625.66	3621.43	3618.10	
Net Change Content	kaf	17.3	5.3	51.5	34.9	-47.6	-49.8	-5.6	24.0	-16.4	-34.2	-35.1	-25.6	-81.3
Yellowtail Power	2010	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Total
Turbine Release	kaf	118.7	115.4	143.3	141.6	146.4	145.5	133.6	122.8	110.3	114.0	114.0	102.9	1508.5
Generation	gwh	46.880	45.746	57.326	57.408	59.240	57.987	52.767	48.648	43.750	44.843	44.318	39.577	598.490
End-Month Power Cap	mw	277.5	278.0	282.8	285.8	281.7	276.9	276.3	278.7	277.1	273.5	269.6	266.5	
% Max Gen		22	22	27	28	28	27	25	23	21	21	21	20	
Ave kwh/af		395	396	400	405	405	399	395	396	397	393	389	385	397
Upstream Generation	gwh	9.889	11.700	25.616	25.738	28.225	25.662	21.320	10.259	5.008	5.198	5.209	4.718	178.542
Total Generation	gwh	56.769	57.446	82.942	83.146	87.465	83.649	74.087	58.907	48.758	50.041	49.527	44.295	777.032

BIGHORN LAKE

BIGHORN LAKE ELEVATION



BIGHORN RIVER FLOW BELOW AFTERBAY



WATER YEAR 2010

Supplemental Information

BHXAOP V1.12 Run: 04-Mar-2010 11:44
 Based on Minimum Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir	2010	Initial Cont Elev 940.5 kaf 3627.97 ft				Maximum Cont Elev 1328.4 kaf 3657.00 ft				Minimum Cont Elev 300.0 kaf 3547.00 ft				Total
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	
Boysen Release	kaf	49.6	44.6	67.6	69.9	76.9	69.2	59.5	46.1	29.8	30.7	30.7	27.8	602.4
Boysen Release	cfs	807	750	1099	1175	1251	1125	1000	750	501	499	499	501	
Buffalo Bill Riv Flo	kaf	21.8	31.7	101.2	105.0	118.7	104.3	82.3	26.7	9.2	9.5	9.5	8.6	628.5
Buffalo Bill Riv Flo	cfs	355	533	1646	1765	1930	1696	1383	434	155	155	155	155	
Station Gain	kaf	58.3	32.6	19.5	-22.6	-108.7	-88.8	-18.0	48.2	47.8	32.7	31.8	34.5	67.3
Monthly Inflow	kaf	129.7	108.9	188.3	152.3	86.9	84.7	123.8	121.0	86.8	72.9	72.0	70.9	1298.2
Monthly Inflow	cfs	2109	1830	3062	2559	1413	1378	2081	1968	1459	1186	1171	1277	
Turbine Release	kaf	118.7	115.4	143.3	141.6	131.0	127.0	115.8	100.2	97.9	101.2	101.2	91.4	1384.7
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	118.7	115.4	143.3	141.6	131.0	127.0	115.8	100.2	97.9	101.2	101.2	91.4	1384.7
Total Release	cfs	1930	1939	2331	2380	2131	2065	1946	1630	1645	1646	1646	1646	
Spring Flow	kaf	4.3	4.2	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	3.9	50.8
Irrigation Reqmnt	kaf	0.0	0.6	24.6	26.8	27.7	26.8	18.8	0.0	0.0	0.0	0.0	0.0	125.3
Afterbay Rels	kaf	123.0	119.6	147.6	145.8	135.3	131.3	120.0	104.5	102.1	105.5	105.5	95.3	1435.5
Afterbay Rels	cfs	2000	2010	2400	2450	2200	2135	2017	1700	1716	1716	1716	1716	
River Release	kaf	123.0	119.0	123.0	119.0	107.6	104.5	101.2	104.5	102.1	105.5	105.5	95.3	1310.2
River Release	cfs	2000	2000	2000	2000	1750	1700	1701	1700	1716	1716	1716	1716	
Min Release	kaf	123.0	119.0	123.0	119.0	107.6	104.5	101.2	104.5	89.3	92.2	92.2	83.3	1258.8
End-Month Targets	kaf				1070.0				1070.0					
End-Month Content	kaf	951.5	945.0	990.0	1000.7	956.6	914.3	922.3	943.1	932.0	903.7	874.5	854.0	
End-Month Elevation	ft	3629.16	3628.46	3633.04	3634.05	3629.69	3625.02	3625.94	3628.26	3627.04	3623.76	3620.12	3617.40	
Net Change Content	kaf	11.0	-6.5	45.0	10.7	-44.1	-42.3	8.0	20.8	-11.1	-28.3	-29.2	-20.5	-86.5
Yellowtail Power	2010	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Total
Turbine Release	kaf	118.7	115.4	143.3	141.6	131.0	127.0	115.8	100.2	97.9	101.2	101.2	91.4	1384.7
Generation	gwh	46.831	45.563	56.936	56.762	52.236	49.931	45.265	39.358	38.517	39.552	39.160	35.056	545.167
End-Month Power Cap	mw	276.8	276.2	280.6	281.6	277.3	272.9	273.8	276.0	274.8	271.7	268.3	265.8	
% Max Gen		22	22	27	27	24	23	22	18	19	18	18	18	
Ave kwh/af		395	395	397	401	399	393	391	393	393	391	387	384	394
Upstream Generation	gwh	9.888	11.165	25.050	24.804	26.925	24.115	19.625	8.946	4.176	4.335	4.345	3.938	167.312
Total Generation	gwh	56.719	56.728	81.986	81.566	79.161	74.046	64.890	48.304	42.693	43.887	43.505	38.994	712.479

BHXAOP V1.12 Run: 04-Mar-2010 11:44
 Based on Maximum Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont Elev 940.5 kaf 3627.97 ft				Maximum Cont Elev 1328.4 kaf 3657.00 ft				Minimum Cont Elev 493.6 kaf 3547.00 ft				Total
	2010	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	
Boysen Release	kaf	49.6	44.6	122.8	129.9	119.2	93.5	73.6	61.5	59.6	61.5	61.5	55.6	932.9
Boysen Release	cfs	807	750	1997	2183	1939	1521	1237	1000	1002	1000	1000	1001	
Buffalo Bill Riv Flo	kaf	21.8	31.7	101.2	105.0	118.7	117.9	99.3	44.5	28.9	21.8	21.8	19.7	732.3
Buffalo Bill Riv Flo	cfs	355	533	1646	1765	1930	1917	1669	724	486	355	355	355	
Station Gain	kaf	80.9	40.7	48.4	108.7	-46.6	-40.3	33.0	74.4	56.2	38.4	37.3	40.6	471.7
Monthly Inflow	kaf	152.3	117.0	272.4	343.6	191.3	171.1	205.9	180.4	144.7	121.7	120.6	115.9	2136.9
Monthly Inflow	cfs	2477	1966	4430	5774	3111	2783	3460	2934	2432	1979	1961	2087	
Turbine Release	kaf	118.7	160.2	238.1	241.3	188.8	201.6	181.0	174.8	167.5	173.1	173.1	156.3	2174.5
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	118.7	160.2	238.1	241.3	188.8	201.6	181.0	174.8	167.5	173.1	173.1	156.3	2174.5
Total Release	cfs	1930	2692	3872	4055	3071	3279	3042	2843	2815	2815	2815	2814	
Spring Flow	kaf	4.3	4.2	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	3.9	50.8
Irrigation Reqmnt	kaf	0.0	0.5	11.2	21.8	27.7	26.8	11.9	0.0	0.0	0.0	0.0	0.0	99.9
Afterbay Rels	kaf	123.0	164.4	242.4	245.5	193.1	205.9	185.2	179.1	171.7	177.4	177.4	160.2	2225.3
Afterbay Rels	cfs	2000	2763	3942	4126	3140	3349	3112	2913	2886	2885	2885	2885	
River Release	kaf	123.0	163.9	231.2	223.7	165.4	179.1	173.3	179.1	171.7	177.4	177.4	160.2	2125.4
River Release	cfs	2000	2754	3760	3759	2690	2913	2912	2913	2886	2885	2885	2885	
Min Release	kaf	123.0	148.8	153.7	148.8	153.7	153.7	148.8	153.7	148.8	153.7	153.7	138.8	1779.2
End-Month Targets	kaf					1070.0			1070.0					
End-Month Content	kaf	974.1	930.9	965.2	1067.5	1070.0	1039.5	1064.4	1070.0	1047.2	995.8	943.3	902.9	
End-Month Elevation	ft	3631.48	3626.91	3630.58	3639.80	3640.00	3637.49	3639.55	3640.00	3638.14	3633.59	3628.28	3623.66	
Net Change Content	kaf	33.6	-43.2	34.3	102.3	2.5	-30.5	24.9	5.6	-22.8	-51.4	-52.5	-40.4	-37.6
Yellowtail Power	2010	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Total
Turbine Release	kaf	118.7	160.2	238.1	241.3	188.8	201.6	181.0	174.8	167.5	173.1	173.1	156.3	2174.5
Generation	gwh	47.006	63.340	94.003	97.361	77.385	82.291	73.821	71.614	68.450	69.954	68.821	61.195	875.241
End-Month Power Cap	mw	279.1	274.7	278.2	287.3	287.5	285.0	287.1	287.5	285.6	281.1	276.0	271.6	
% Max Gen		22	31	44	47	36	38	36	33	33	33	32	32	
Ave kwh/af		396	395	395	403	410	408	408	410	409	404	398	392	403
Upstream Generation	gwh	9.910	11.204	29.729	30.679	32.553	31.736	27.177	16.767	13.142	11.237	11.175	9.419	234.728
Total Generation	gwh	56.916	74.544	123.732	128.040	109.938	114.027	100.998	88.381	81.592	81.191	79.996	70.614	1109.969