

RECLAMATION

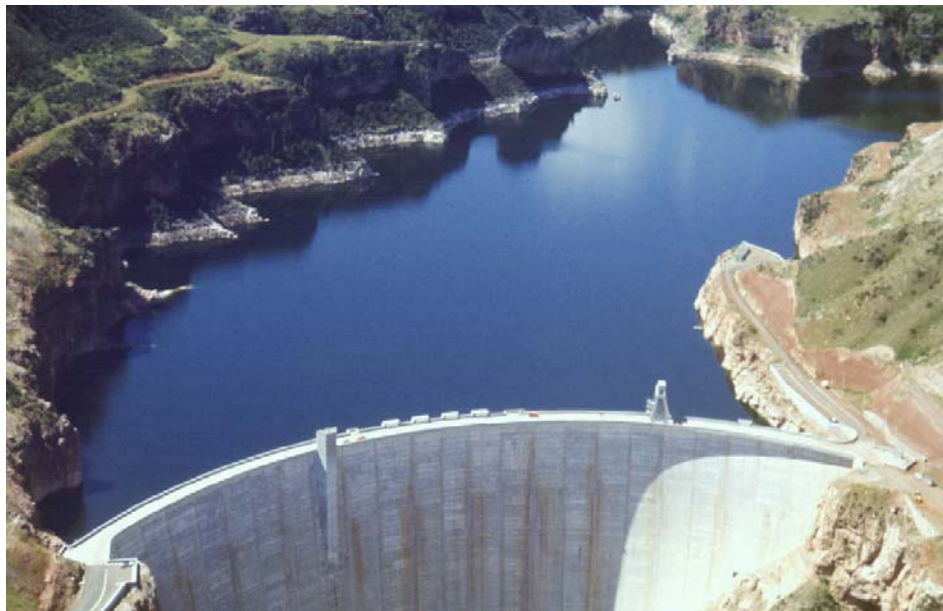
Managing Water in the West

April 7, 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 April 1 was 115 percent of average and 10 feet below the top of the joint-use pool. It was also 2.0 feet lower than on March 1. Snowpack conditions in the Bighorn Basin were 70 percent of average on April 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 April indicates the April-July inflow to Bighorn Lake to be 625,000 acre-feet (56 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
 April 1, 2010

Present Elevations & Storages:

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4716.84	594,760	111
Buffalo Bill	5363.96	425,925	104
Bighorn Lake	3629.99	959,426	115

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
March	137.7	81

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	66.0	89

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

<u>Agency</u>	<u>Inflows</u>	<u>Percent of Normal</u>
USBR	625.0	56

Snowpack Conditions:

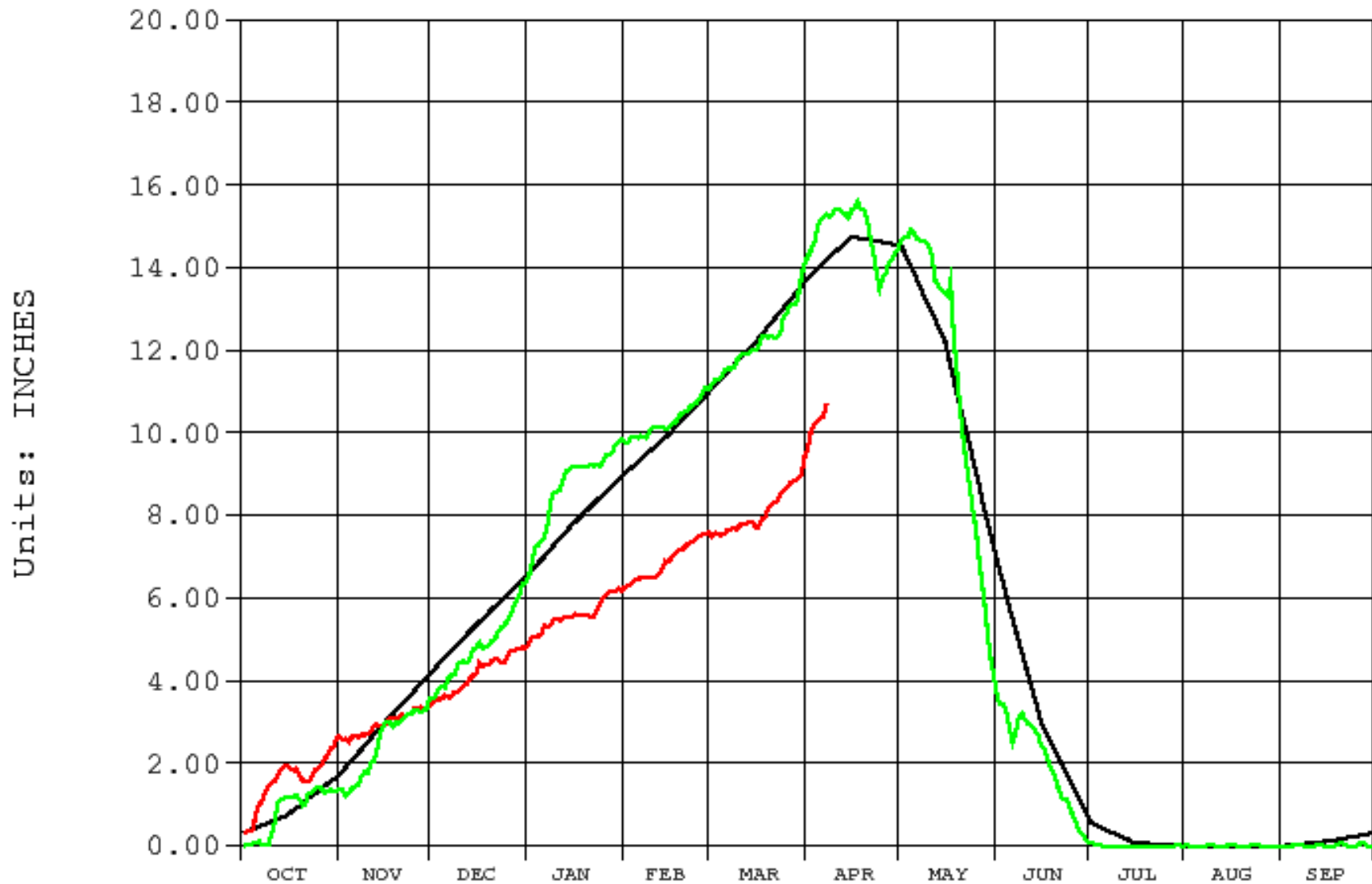
S N O W - P R E C I P I T A T I O N U P D A T E
 Based on Mountain Data from NRCS SNOTEL Sites
 As of THURSDAY: APRIL 1 , 2010

<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	13.5	23.5	57	12.6	20.2	62
BOX CANYON	6670	6.2	10.4	60	9.2	12.4	74
BRACKETT CREEK	7320	20.5	21.5	95	24.0	25.1	96
BURNT MTN	5880	3.8	6.2	61	10.7	15.2	70
CANYON	7870	8.0	13.9	58	9.7	15.5	63
COLE CREEK	7850	13.6	16.2	84	10.4	16.5	63
EAST BOULDER MINE	6335	4.4	-M	*	9.9	-M	*
EVENING STAR	9200	18.6	30.0	62	19.8	25.4	78
FISHER CREEK	9100	22.4	35.3	63	21.3	36.6	58
MONUMENT PEAK	8850	15.6	20.9	75	15.0	21.2	71
NORTHEAST ENTRANCE	7350	5.4	11.3	48	8.2	12.7	65
PARKER PEAK	9400	17.5	21.8	80	12.1	16.3	74
PLACER BASIN	8830	13.6	17.7	77	14.7	19.0	77
PORCUPINE	6500	5.2	6.9	75	10.3	11.8	87

SACAJAWEA	6550	15.2	14.7	103	22.5	22.6	100
SHOWER FALLS	8100	18.8	22.5	84	19.3	24.4	79
S FORK SHIELDS	8100	15.4	17.6	88	19.7	20.1	98
SYLVAN LAKE	8420	13.2	22.7	58	15.9	21.0	76
SYLVAN ROAD	7120	7.0	12.9	54	11.4	17.7	64
THUMB DIVIDE	7980	9.2	19.2	48	11.9	19.0	63
TWO OCEAN PLATEAU	9240	19.2	28.2	68	16.0	27.9	57
WHITE MILL	8700	15.7	24.5	64	14.6	27.2	54
WOLVERINE	7650	7.0	11.6	60	6.8	12.8	53
YOUNTS PEAK	8350	9.9	17.2	58	8.3	16.2	51
				-----			-----
Basin wide percent of average				69			71
WIND RIVER BASIN (WYOMING)							
BURROUGHS CREEK	8750	8.4	14.8	57	6.2	16.3	38
COLD SPRINGS	9630	6.7	9.0	74	8.2	10.6	77
DEER PARK	9700	13.8	17.0	81	15.3	21.9	70
HOBBS PARK	10100	14.3	15.0	95	13.6	12.8	106
KIRWIN	9550	8.7	11.4	76	8.3	11.2	74
LITTLE WARM	9370	6.8	12.0	57	7.1	13.4	53
OWL CREEK	8975	5.7	5.6	102	4.7	5.8	81
SOUTH PASS	9040	12.4	16.7	74	13.5	18.5	73
ST. LAWRENCE ALT	8620	7.3	7.4	99	9.2	8.8	105
TOGWOTEE PASS	9580	16.8	25.0	67	16.8	24.7	68
TOWNSEND CREEK	8700	10.6	8.7	122	12.3	11.6	106
YOUNTS PEAK	8350	9.9	17.2	58	8.3	16.2	51
				-----			-----
Basin wide percent of average				76			72
SHOSHONE RIVER BASIN (WYOMING)							
BLACKWATER	9780	15.8	24.8	64	14.5	20.6	70
EVENING STAR	9200	18.6	30.0	62	19.8	25.4	78
MARQUETTE	8760	6.6	9.0	73	7.4	9.7	76
SYLVAN LAKE	8420	13.2	22.7	58	15.9	21.0	76
SYLVAN ROAD	7120	7.0	12.9	54	11.4	17.7	64
YOUNTS PEAK	8350	9.9	17.2	58	8.3	16.2	51
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Basin wide percent of average				61			70
BIGHORN RIVER BASIN (WYOMING)							
BALD MTN.	9380	13.1	19.7	66	10.3	17.4	59
BEAR TRAP MEADOW	8200	6.6	5.2	127	7.3	8.2	89
BLACKWATER	9780	15.8	24.8	64	14.5	20.6	70
BONE SPRINGS DIV	9350	11.1	16.3	68	9.2	14.6	63
EVENING STAR	9200	18.6	30.0	62	19.8	25.4	78
GRAVE SPRINGS	8550	8.6	9.4	91	9.5	9.6	99
KIRWIN	9550	8.7	11.4	76	8.3	11.2	74
MARQUETTE	8760	6.6	9.0	73	7.4	9.7	76
MIDDLE POWDER	7760	9.5	11.8	81	7.6	12.3	62
OWL CREEK	8975	5.7	5.6	102	4.7	5.8	81
POWDER RIVER PASS	9480	8.7	10.9	80	10.0	12.3	81
SHELL CREEK	9580	11.1	14.8	75	9.9	13.3	74
SYLVAN LAKE	8420	13.2	22.7	58	15.9	21.0	76
SYLVAN ROAD	7120	7.0	12.9	54	11.4	17.7	64
TIMBER CREEK	7950	4.1	5.8	71	5.7	7.3	78
YOUNTS PEAK	8350	9.9	17.2	58	8.3	16.2	51
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Basin wide percent of average				70			72

Archive Data From 1-OCT Through 30-SEP
Plotted 04/07/2010 07:51



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

SE_AVG Snow Water Equivalent Average (inches)
SE Snow Water Equivalent (inches)

2010
2010 2009

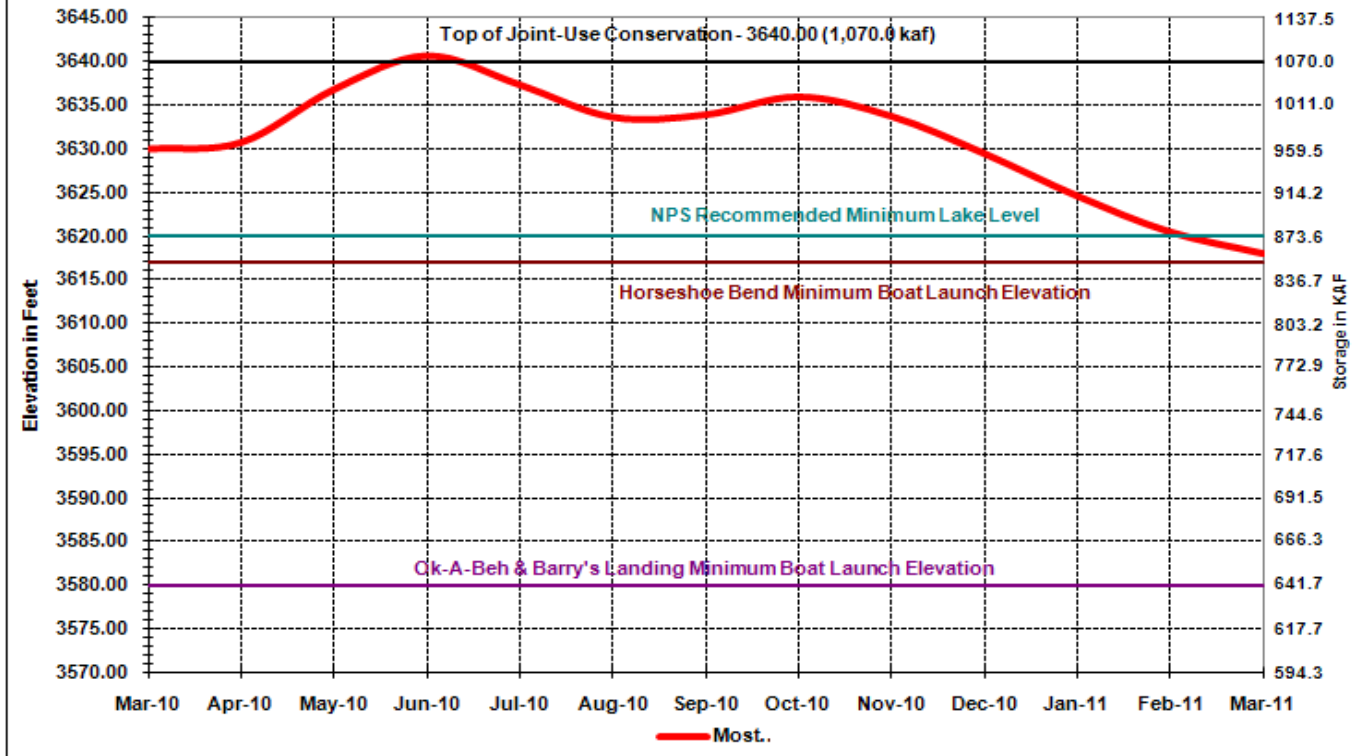
BHXAOP V1.12 Run: 06-Apr-2010 20:16
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

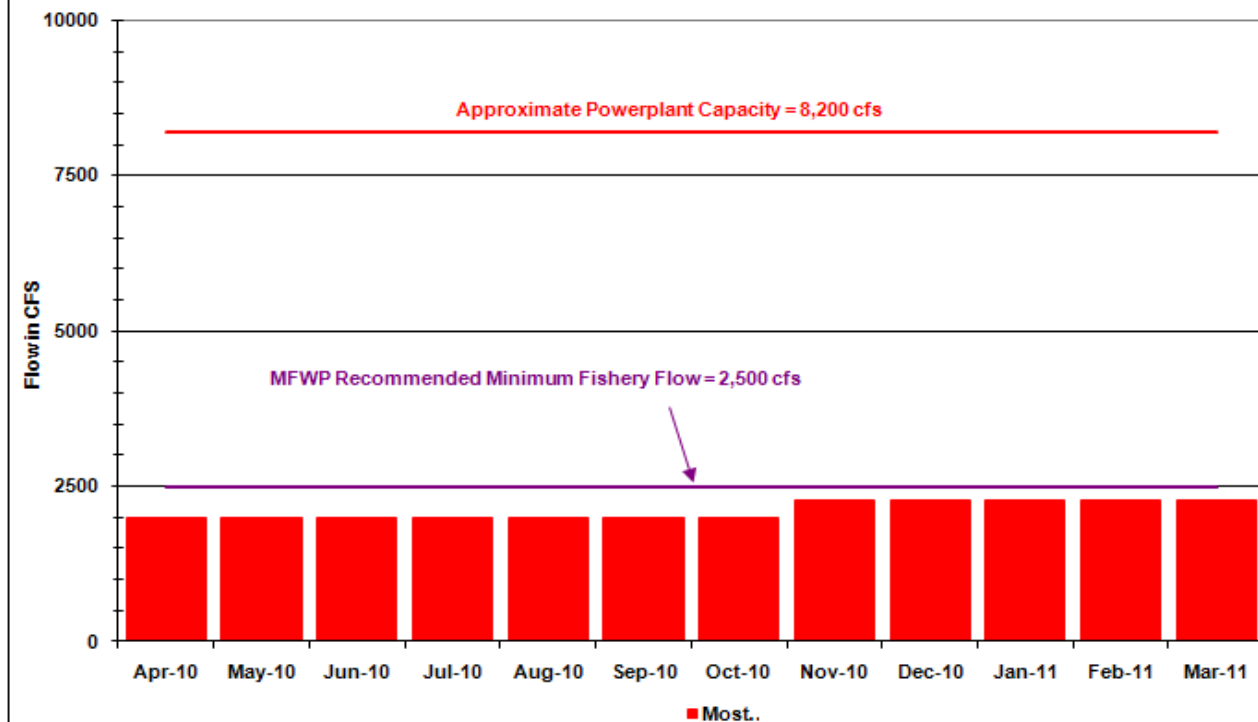
Bighorn Reservoir		Initial Cont 959.4 kaf Elev 3629.99 ft				Maximum Cont 1328.4 kaf Elev 3657.00 ft				Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2010	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
Boysen Release	kaf	44.6	70.7	72.9	79.9	72.2	62.5	52.3	47.7	49.2	49.3	44.5	49.2	695.0
Boysen Release	cfs	750	1150	1225	1299	1174	1050	851	802	800	802	801	800	
Buffalo Bill Riv Flo	kaf	31.7	101.2	105.0	118.7	104.3	82.3	26.7	9.2	9.5	9.5	8.6	9.5	616.2
Buffalo Bill Riv Flo	cfs	533	1646	1765	1930	1696	1383	434	155	155	155	155	155	
Station Gain	kaf	46.3	36.3	10.7	-93.0	-72.4	-8.3	66.4	50.0	34.1	33.2	36.1	58.1	197.5
Monthly Inflow	kaf	122.6	208.2	188.6	105.6	104.1	136.5	145.4	106.9	92.8	92.0	89.2	116.8	1508.7
Monthly Inflow	cfs	2060	3386	3170	1717	1693	2294	2365	1797	1509	1496	1606	1900	
Turbine Release	kaf	115.4	143.3	141.6	146.4	145.5	133.6	122.8	131.3	135.7	135.7	122.6	135.7	1609.6
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	115.4	143.3	141.6	146.4	145.5	133.6	122.8	131.3	135.7	135.7	122.6	135.7	1609.6
Total Release	cfs	1939	2331	2380	2381	2366	2245	1997	2207	2207	2207	2208	2207	
Spring Flow	kaf	4.2	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	3.9	4.3	50.8
Irrigation Reqmnt	kaf	0.6	24.6	26.8	27.7	26.8	18.8	4.1	0.0	0.0	0.0	0.0	0.0	129.4
Afterbay Rels	kaf	119.6	147.6	145.8	150.7	149.8	137.8	127.1	135.5	140.0	140.0	126.5	140.0	1660.4
Afterbay Rels	cfs	2010	2400	2450	2451	2436	2316	2067	2277	2277	2277	2278	2277	
River Release	kaf	119.0	123.0	119.0	123.0	123.0	119.0	123.0	135.5	140.0	140.0	126.5	140.0	1531.0
River Release	cfs	2000	2000	2000	2000	2000	2000	2000	2277	2277	2277	2278	2277	
Min Release	kaf	119.0	123.0	119.0	123.0	123.0	119.0	123.0	89.3	92.2	92.2	83.3	123.0	1329.0
End-Month Targets	kaf				1070.0			1070.0						
End-Month Content	kaf	966.6	1031.5	1078.5	1037.7	996.3	999.2	1021.8	997.4	954.5	910.8	877.4	858.5	
End-Month Elevation	ft	3630.73	3636.81	3640.66	3637.34	3633.63	3633.91	3635.96	3633.74	3629.47	3624.60	3620.49	3618.01	
Net Change Content	kaf	7.2	64.9	47.0	-40.8	-41.4	2.9	22.6	-24.4	-42.9	-43.7	-33.4	-18.9	-100.9
Yellowtail Power	2010	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Turbine Release	kaf	115.4	143.3	141.6	146.4	145.5	133.6	122.8	131.3	135.7	135.7	122.6	135.7	1609.6
Generation	gwh	45.784	57.510	57.804	59.818	58.719	53.595	49.459	52.867	54.063	53.301	47.524	52.116	642.560
End-Month Power Cap	mw	278.3	284.3	288.0	284.8	281.2	281.4	283.5	281.3	277.1	272.5	268.7	266.4	
% Max Gen		22	27	28	28	27	26	23	25	25	25	25	24	
Ave kwh/af		397	401	408	409	404	401	403	403	398	393	388	384	399
Upstream Generation	gwh	11.181	25.550	25.767	28.391	25.855	21.492	10.409	6.151	6.356	6.349	5.716	6.542	179.759
Total Generation	gwh	56.965	83.060	83.571	88.209	84.574	75.087	59.868	59.018	60.419	59.650	53.240	58.658	822.319

BIGHORN LAKE

BIGHORN LAKE ELEVATION



BIGHORN RIVER FLOW BELOW AFTERBAY



WATER YEAR 2010

Supplemental Information

BHXAOP V1.12 Run: 06-Apr-2010 20:16
 Based on Maximum Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont Elev 3629.99 ft				Maximum Cont Elev 3657.00 ft				Minimum Cont Elev 3547.00 ft				Total	
		2010	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Boysen Release	kaf	44.6	121.6	128.7	118.1	94.5	73.9	61.5	59.5	61.5	61.5	55.6	61.5	942.5	
Boysen Release	cfs	750	1978	2163	1921	1537	1242	1000	1000	1000	1000	1001	1000		
Buffalo Bill Riv Flo	kaf	31.7	101.2	105.0	118.7	115.0	96.7	44.5	28.9	21.8	21.8	19.7	21.8	726.8	
Buffalo Bill Riv Flo	cfs	533	1646	1765	1930	1870	1625	724	486	355	355	355	355		
Station Gain	kaf	51.0	52.6	130.6	-30.5	-36.4	33.0	74.4	57.2	39.6	38.9	43.1	67.1	520.6	
Monthly Inflow	kaf	127.3	275.4	364.3	206.3	173.1	203.6	180.4	145.6	122.9	122.2	118.4	150.4	2189.9	
Monthly Inflow	cfs	2139	4479	6122	3355	2815	3422	2934	2447	1999	1987	2132	2446		
Turbine Release	kaf	145.2	256.4	257.3	203.8	190.4	186.4	180.3	169.0	174.7	174.7	157.8	174.8	2270.8	
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	145.2	256.4	257.3	203.8	190.4	186.4	180.3	169.0	174.7	174.7	157.8	174.8	2270.8	
Total Release	cfs	2440	4170	4324	3314	3097	3133	2932	2840	2841	2841	2841	2843		
Spring Flow	kaf	4.2	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	3.9	4.3	50.8	
Irrigation Reqmnt	kaf	0.5	11.2	21.8	27.7	26.8	11.9	0.0	0.0	0.0	0.0	0.0	0.0	99.9	
Afterbay Rels	kaf	149.4	260.7	261.5	208.1	194.7	190.6	184.6	173.2	179.0	179.0	161.7	179.1	2321.6	
Afterbay Rels	cfs	2511	4240	4395	3384	3166	3203	3002	2911	2911	2911	2912	2913		
River Release	kaf	148.9	249.5	239.7	180.4	167.9	178.7	184.6	173.2	179.0	179.0	161.7	179.1	2221.7	
River Release	cfs	2502	4058	4028	2934	2731	3003	3002	2911	2911	2911	2912	2913		
Min Release	kaf	148.8	153.7	148.8	153.7	153.7	148.8	153.7	148.8	153.7	153.7	138.8	123.0	1779.2	
End-Month Targets	kaf				1070.0			1070.0							
End-Month Content	kaf	941.5	960.5	1067.5	1070.0	1052.7	1069.9	1070.0	1046.6	994.8	942.3	902.9	878.5		
End-Month Elevation	ft	3628.08	3630.10	3639.80	3640.00	3638.60	3639.99	3640.00	3638.09	3633.49	3628.17	3623.66	3620.63		
Net Change Content	kaf	-17.9	19.0	107.0	2.5	-17.3	17.2	0.1	-23.4	-51.8	-52.5	-39.4	-24.4	-80.9	
Yellowtail Power	2010	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total	
Turbine Release	kaf	145.2	256.4	257.3	203.8	190.4	186.4	180.3	169.0	174.7	174.7	157.8	174.8	2270.8	
Generation	gwh	57.371	101.326	103.742	83.533	77.871	76.234	73.927	69.057	70.583	69.435	61.772	67.678	912.529	
End-Month Power Cap	mw	275.8	277.7	287.3	287.5	286.1	287.5	287.5	285.6	281.0	275.9	271.6	268.8		
% Max Gen		28	47	50	39	36	37	35	33	33	32	32	32		
Ave kwh/af		395	395	403	410	409	409	410	409	404	397	391	387	402	
Upstream Generation	gwh	11.172	29.547	30.511	32.400	31.097	26.659	16.763	13.130	11.234	11.171	9.416	11.085	234.185	
Total Generation	gwh	68.543	130.873	134.253	115.933	108.968	102.893	90.690	82.187	81.817	80.606	71.188	78.763	1146.71	

BHXAOP V1.12 Run: 06-Apr-2010 20:16
 Based on Minimum Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont Elev 3629.99 ft 959.4 kaf					Maximum Cont Elev 3657.00 ft 1328.4 kaf				Minimum Cont Elev 3547.00 ft 300.0 kaf				Total
	2010	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar		
Boysen Release	kaf	44.6	67.6	69.9	76.9	69.2	59.5	46.1	29.8	30.7	30.7	27.8	30.7	583.5	
Boysen Release	cfs	750	1099	1175	1251	1125	1000	750	501	499	499	501	499		
Buffalo Bill Riv Flo	kaf	31.7	101.2	105.0	118.7	104.3	82.3	26.7	9.2	9.5	9.5	8.6	9.5	616.2	
Buffalo Bill Riv Flo	cfs	533	1646	1765	1930	1696	1383	434	155	155	155	155	155		
Station Gain	kaf	32.6	19.5	-22.6	-108.7	-88.8	-18.0	48.2	47.8	32.7	31.7	34.5	55.6	64.5	
Monthly Inflow	kaf	108.9	188.3	152.3	86.9	84.7	123.8	121.0	86.8	72.9	71.9	70.9	95.8	1264.2	
Monthly Inflow	cfs	1830	3062	2559	1413	1378	2081	1968	1459	1186	1169	1277	1558		
Turbine Release	kaf	115.4	143.3	141.6	131.0	127.0	115.8	100.2	99.5	102.8	102.8	92.9	102.8	1375.1	
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	115.4	143.3	141.6	131.0	127.0	115.8	100.2	99.5	102.8	102.8	92.9	102.8	1375.1	
Total Release	cfs	1939	2331	2380	2131	2065	1946	1630	1672	1672	1672	1673	1672		
Spring Flow	kaf	4.2	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	3.9	4.3	50.8	
Irrigation Reqmnt	kaf	0.6	24.6	26.8	27.7	26.8	18.8	0.0	0.0	0.0	0.0	0.0	0.0	125.3	
Afterbay Rels	kaf	119.6	147.6	145.8	135.3	131.3	120.0	104.5	103.7	107.1	107.1	96.8	107.1	1425.9	
Afterbay Rels	cfs	2010	2400	2450	2200	2135	2017	1700	1743	1742	1742	1743	1742		
River Release	kaf	119.0	123.0	119.0	107.6	104.5	101.2	104.5	103.7	107.1	107.1	96.8	107.1	1300.6	
River Release	cfs	2000	2000	2000	1750	1700	1701	1700	1743	1742	1742	1743	1742		
Min Release	kaf	119.0	123.0	119.0	107.6	104.5	101.2	104.5	89.3	92.2	92.2	83.3	92.2	1228.0	
End-Month Targets	kaf			1070.0				1070.0							
End-Month Content	kaf	952.9	997.9	1008.6	964.5	922.2	930.2	951.0	938.3	908.4	877.5	855.5	848.5		
End-Month Elevation	ft	3629.30	3633.78	3634.78	3630.51	3625.93	3626.84	3629.10	3627.73	3624.32	3620.50	3617.60	3616.65		
Net Change Content	kaf	-6.5	45.0	10.7	-44.1	-42.3	8.0	20.8	-12.7	-29.9	-30.9	-22.0	-7.0	-110.9	
Yellowtail Power	2010	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total	
Turbine Release	kaf	115.4	143.3	141.6	131.0	127.0	115.8	100.2	99.5	102.8	102.8	92.9	102.8	1375.1	
Generation	gwh	45.682	57.081	56.902	52.367	50.062	45.386	39.462	39.239	40.252	39.833	35.660	39.253	541.179	
End-Month Power Cap	mw	277.0	281.3	282.3	278.1	273.8	274.6	276.8	275.5	272.2	268.7	266.0	265.1		
% Max Gen		22	27	27	24	23	22	18	19	19	19	18	18		
Ave kwh/af		396	398	402	400	394	392	394	394	392	387	384	382	394	
Upstream Generation	gwh	11.207	25.142	24.895	27.020	24.217	19.723	8.992	4.198	4.357	4.368	3.957	4.614	162.690	
Total Generation	gwh	56.889	82.223	81.797	79.387	74.279	65.109	48.454	43.437	44.609	44.201	39.617	43.867	703.869	