

RECLAMATION

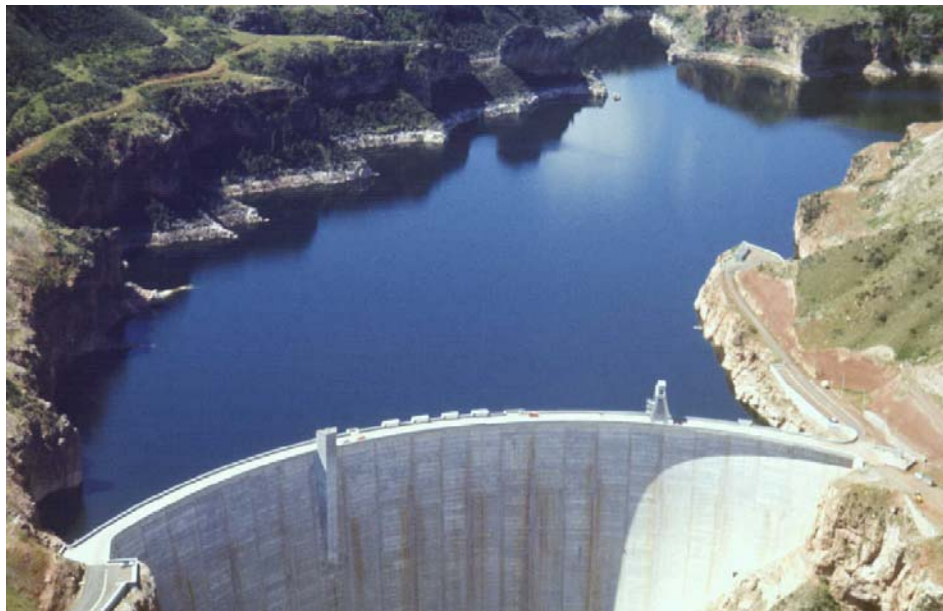
Managing Water in the West

May 11, 2010

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans prepared in May. Storage in Bighorn Lake on May 1 was 118 percent of average and 9.4 feet below the top of the joint-use pool. It was also 0.7 feet higher than on March 1. Snowpack conditions in the Bighorn Basin were 71 percent of average on May 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 May indicates the May-July inflow to Bighorn Lake to be 779,000 acre-feet (82 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
 May 1, 2010

Present Elevations & Storages:

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4717.12	615,916	111
Buffalo Bill	5362.06	413,497	104
Bighorn Lake	3630.65	965,827	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
April	121.4	74

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	28.3	81

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

<u>Agency</u>	<u>Inflows</u>	<u>Percent of Normal</u>
USBR	779.0	82

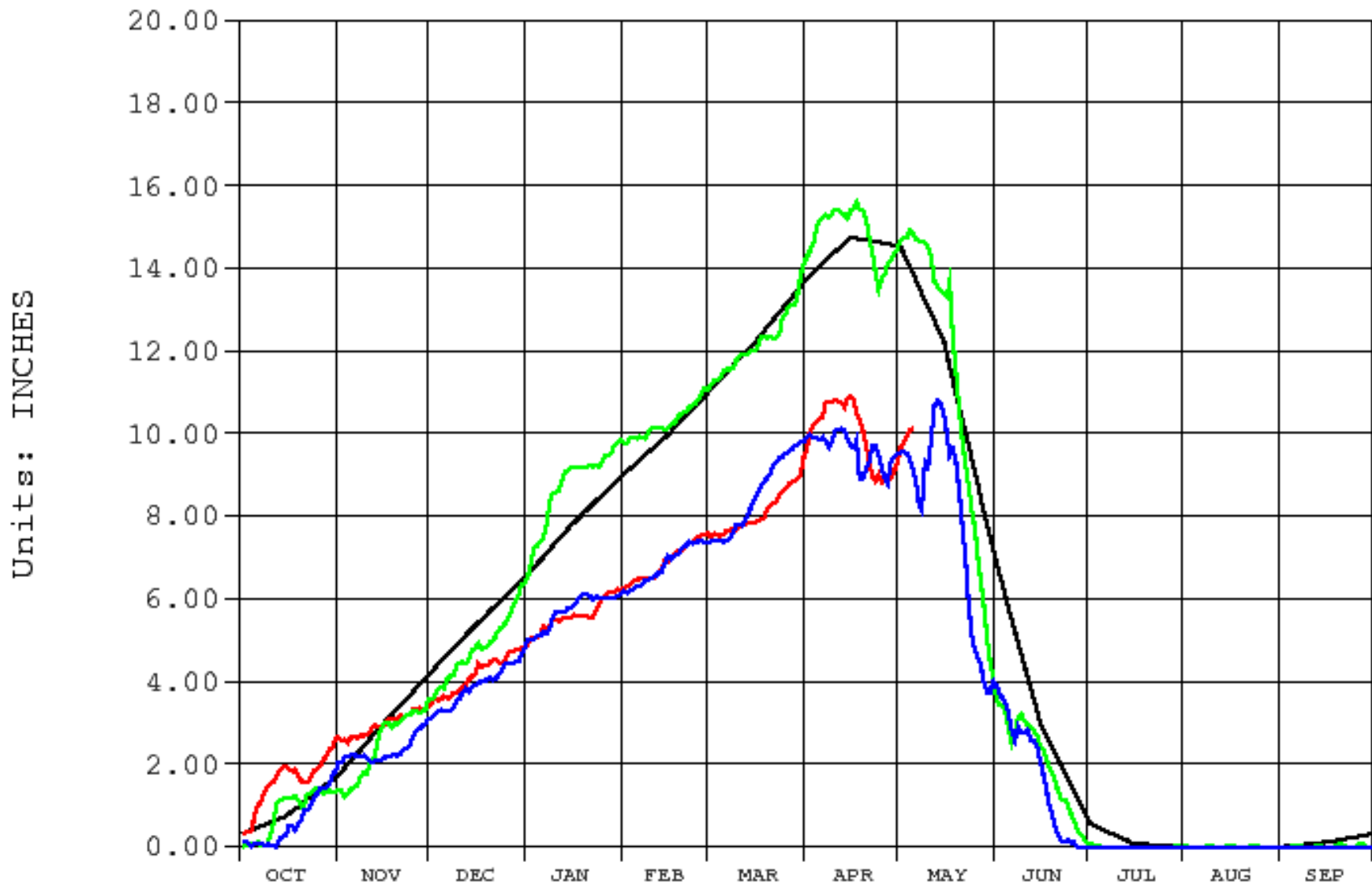
Snowpack Conditions:

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: MAY 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	16.5	25.9	64	15.9	23.4	68
BOX CANYON	6670	2.6	6.4	41	12.6	14.8	85
BRACKETT CREEK	7320	21.3	21.6	99	31.0	30.4	102
BURNT MTN CANYON	5880	.0	1.4	0	13.0	20.0	65
COLE CREEK	7870	7.1	11.5	62	13.2	17.6	75
EAST BOULDER MINE	7850	14.8	19.7	75	13.0	21.7	60
EVENING STAR	6335	.3	-M	*	12.3	-M	*
FISHER CREEK	9200	18.7	33.2	56	23.6	29.8	79
MONUMENT PEAK	9100	24.8	37.8	66	26.7	41.7	64
NORTHEAST ENTRANCE	8850	17.5	23.3	75	19.8	24.7	80
PARKER PEAK	7350	.6	7.4	8	10.3	14.7	70
	9400	19.1	24.5	78	15.1	19.4	78

PLACER BASIN	8830	15.1	19.8	76	19.2	23.3	82
PORCUPINE	6500	1.3	3.7	35	14.8	14.8	100
SACAJAWEA	6550	12.9	13.4	96	28.6	27.3	105
SHOWER FALLS	8100	23.4	27.0	87	25.8	30.3	85
S FORK SHIELDS	8100	18.9	19.7	96	26.1	25.4	103
SYLVAN LAKE	8420	12.5	23.9	52	20.4	24.6	83
SYLVAN ROAD	7120	.8	8.4	10	14.6	20.4	72
THUMB DIVIDE	7980	7.0	15.3	46	15.5	21.9	71
TWO OCEAN PLATEAU	9240	24.4	31.8	77	20.7	32.0	65
WHITE MILL	8700	17.4	26.4	66	18.2	31.1	59
WOLVERINE	7650	.9	7.4	12	8.7	15.1	58
YOUNTS PEAK	8350	10.8	18.2	59	11.4	18.7	61
Basin wide percent of average				67			77
WIND RIVER BASIN (WYOMING)							
BURROUGHS CREEK	8750	9.6	13.8	70	-M	19.2	*
COLD SPRINGS	9630	6.5	4.9	133	12.7	13.8	92
DEER PARK	9700	17.8	19.0	94	22.7	26.8	85
HOBBS PARK	10100	19.5	18.0	108	20.6	16.8	123
KIRWIN	9550	10.6	13.0	82	12.3	14.1	87
LITTLE WARM	9370	8.1	11.3	72	11.4	16.7	68
OWL CREEK	8975	.9	4.1	22	7.2	8.1	89
SOUTH PASS	9040	15.1	18.1	83	20.1	22.6	89
ST. LAWRENCE ALT	8620	6.5	6.3	103	13.9	12.0	116
TOGWOTEE PASS	9580	20.7	27.9	74	20.6	28.8	72
TOWNSEND CREEK	8700	11.3	9.2	123	18.2	15.4	118
YOUNTS PEAK	8350	10.8	18.2	59	11.4	18.7	61
Basin wide percent of average				84			88
SHOSHONE RIVER BASIN (WYOMING)							
BLACKWATER	9780	19.6	28.7	68	18.7	24.6	76
EVENING STAR	9200	18.7	33.2	56	23.6	29.8	79
MARQUETTE	8760	7.6	11.2	68	11.6	13.6	85
SYLVAN LAKE	8420	12.5	23.9	52	20.4	24.6	83
SYLVAN ROAD	7120	.8	8.4	10	14.6	20.4	72
YOUNTS PEAK	8350	10.8	18.2	59	11.4	18.7	61
Basin wide percent of average				57			76
BIGHORN RIVER BASIN (WYOMING)							
BALD MTN.	9380	15.6	23.5	66	12.8	21.2	60
BEAR TRAP MEADOW	8200	3.8	2.7	141	10.1	10.8	94
BLACKWATER	9780	19.6	28.7	68	18.7	24.6	76
BONE SPRINGS DIV	9350	12.2	18.3	67	12.7	18.2	70
EVENING STAR	9200	18.7	33.2	56	23.6	29.8	79
GRAVE SPRINGS	8550	-M	11.1	*	13.0	13.0	100
KIRWIN	9550	10.6	13.0	82	12.3	14.1	87
MARQUETTE	8760	7.6	11.2	68	11.6	13.6	85
MIDDLE POWDER	7760	11.3	14.5	78	10.8	15.7	69
OWL CREEK	8975	.9	4.1	22	7.2	8.1	89
POWDER RIVER PASS	9480	7.6	10.9	70	12.8	15.7	82
SHELL CREEK	9580	13.6	16.9	80	13.1	16.7	78
SYLVAN LAKE	8420	12.5	23.9	52	20.4	24.6	83
SYLVAN ROAD	7120	.8	8.4	10	14.6	20.4	72
TIMBER CREEK	7950	1.8	4.9	37	8.2	10.4	79
YOUNTS PEAK	8350	10.8	18.2	59	11.4	18.7	61
Basin wide percent of average				63			77

Archive Data From 1-OCT Through 30-SEP
Plotted 05/05/2010 16:04



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 2005

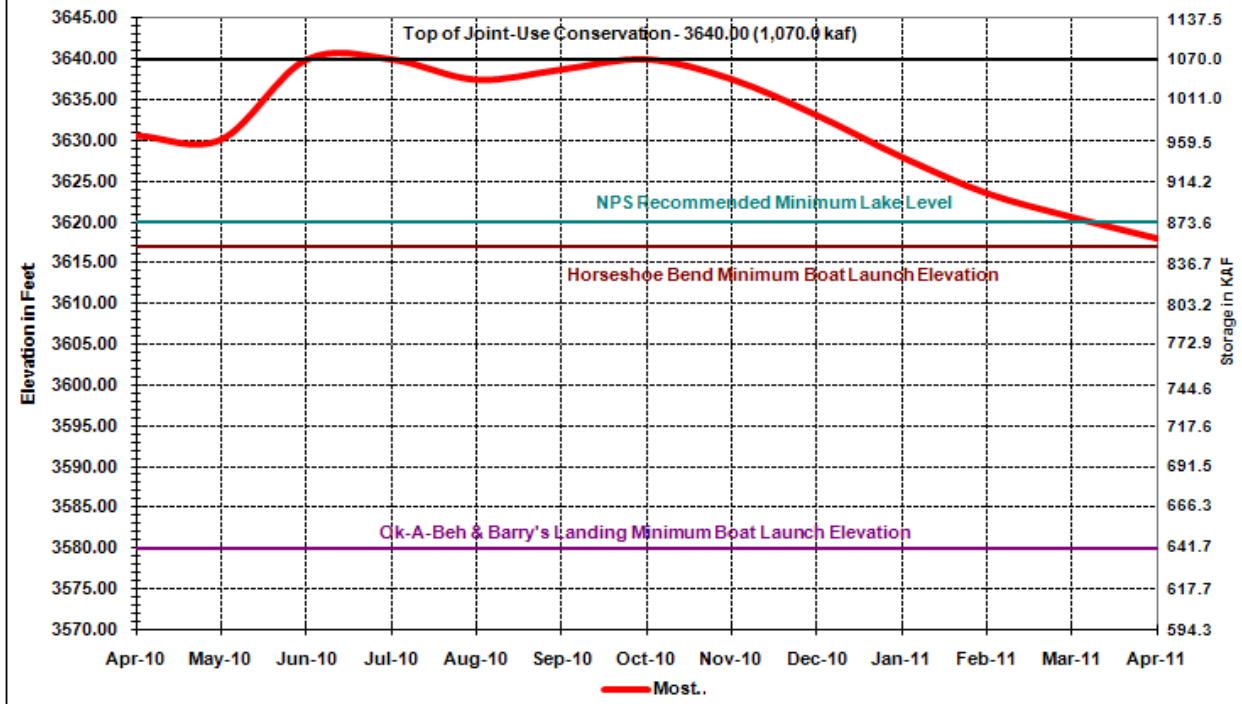
BHXAOP V1.12 Run: 11-May-2010 14:48
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

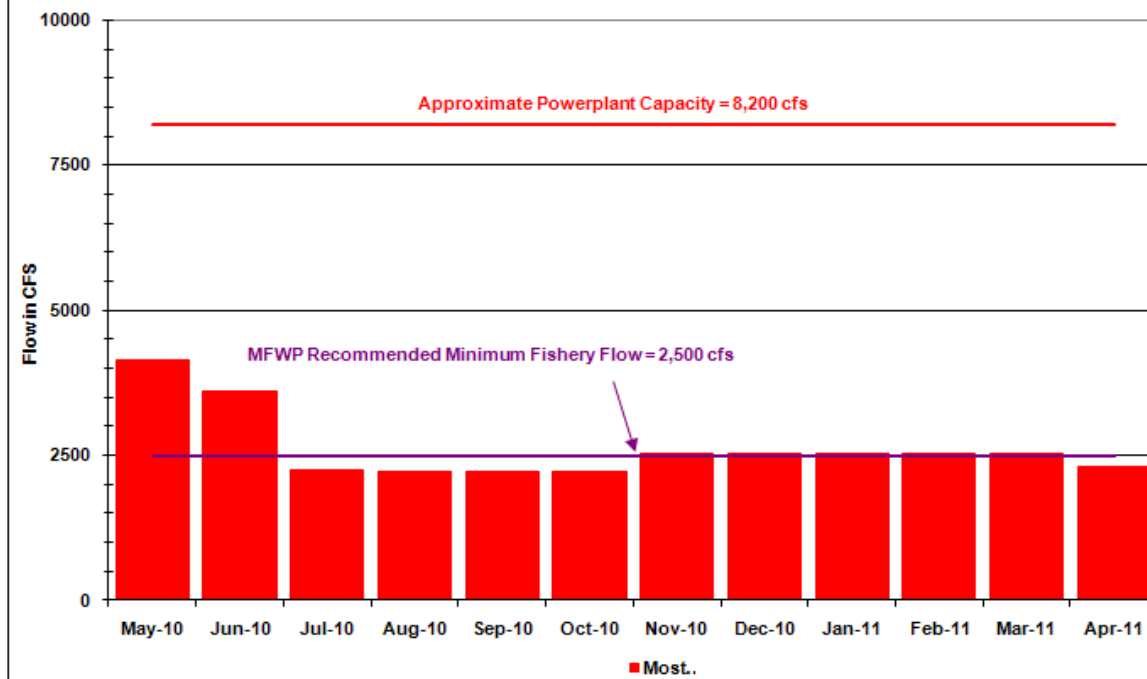
Bighorn Reservoir		Initial Cont 965.8 kaf Elev 3630.64 ft				Maximum Cont 1328.4 kaf Elev 3657.00 ft				Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2010	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
Boysen Release	kaf	123.0	161.1	103.0	72.2	62.5	55.4	53.6	55.3	55.4	50.0	55.3	53.6	900.4
Boysen Release	cfs	2000	2707	1675	1174	1050	901	901	899	901	900	899	901	
Buffalo Bill Riv Flo	kaf	101.2	105.0	118.7	104.3	82.3	26.7	9.2	9.5	9.5	8.6	9.5	31.7	616.2
Buffalo Bill Riv Flo	cfs	1646	1765	1930	1696	1383	434	155	155	155	155	155	533	
Station Gain	kaf	46.6	79.0	-58.6	-48.6	16.3	69.2	53.4	36.6	35.5	38.7	62.3	28.6	359.0
Monthly Inflow	kaf	270.8	345.1	163.1	127.9	161.1	151.3	116.2	101.4	100.4	97.3	127.1	113.9	1875.6
Monthly Inflow	cfs	4404	5800	2653	2080	2707	2461	1953	1649	1633	1752	2067	1914	
Turbine Release	kaf	275.6	236.8	162.4	158.4	146.2	135.7	145.8	150.7	150.7	136.1	150.6	133.9	1982.9
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	275.6	236.8	162.4	158.4	146.2	135.7	145.8	150.7	150.7	136.1	150.6	133.9	1982.9
Total Release	cfs	4482	3980	2641	2576	2457	2207	2450	2451	2451	2451	2449	2250	
Spring Flow	kaf	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	3.9	4.3	4.2	50.8
Irrigation Reqmnt	kaf	24.6	26.8	27.7	26.8	18.8	4.1	0.0	0.0	0.0	0.0	0.0	0.6	129.4
Afterbay Rels	kaf	279.9	241.0	166.7	162.7	150.4	140.0	150.0	155.0	155.0	140.0	154.9	138.1	2033.7
Afterbay Rels	cfs	4552	4050	2711	2646	2528	2277	2521	2521	2521	2521	2519	2321	
River Release	kaf	255.3	214.2	139.0	135.9	131.6	135.9	150.0	155.0	155.0	140.0	154.9	137.5	1904.3
River Release	cfs	4152	3600	2261	2210	2212	2210	2521	2521	2521	2521	2519	2311	
Min Release	kaf	123.0	119.0	123.0	123.0	119.0	123.0	148.8	153.7	153.7	138.8	153.7	119.0	1597.7
End-Month Targets	kaf			1070.0			1070.0					878.5	858.5	
End-Month Content	kaf	961.0	1069.3	1070.0	1039.5	1054.4	1070.0	1040.4	991.1	940.8	902.0	878.5	858.5	
End-Month Elevation	ft	3630.15	3639.94	3640.00	3637.49	3638.74	3640.00	3637.57	3633.14	3628.01	3623.55	3620.63	3618.01	
Net Change Content	kaf	-4.8	108.3	0.7	-30.5	14.9	15.6	-29.6	-49.3	-50.3	-38.8	-23.5	-20.0	-107.3
Yellowtail Power	2010	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Turbine Release	kaf	275.6	236.8	162.4	158.4	146.2	135.7	145.8	150.7	150.7	136.1	150.6	133.9	1982.9
Generation	gwh	109.356	95.510	66.582	64.657	59.539	55.514	59.522	60.794	59.846	53.256	58.299	51.435	794.310
End-Month Power Cap	mw	277.8	287.5	287.5	285.0	286.2	287.5	285.1	280.7	275.7	271.5	268.8	266.4	
% Max Gen		51	46	31	30	29	26	29	28	28	28	27	25	
Ave kwh/af		397	403	410	408	407	409	408	403	397	391	387	384	401
Upstream Generation	gwh	29.828	30.677	30.306	25.698	21.326	10.632	6.646	6.853	6.828	6.131	6.987	12.003	193.915
Total Generation	gwh	139.184	126.187	96.888	90.355	80.865	66.146	66.168	67.647	66.674	59.387	65.286	63.438	988.225

BIGHORN LAKE

BIGHORN LAKE ELEVATION



BIGHORN RIVER FLOW BELOW AFTERBAY



WATER YEAR 2010

Supplemental Information

BHXAOP V1.12 Run: 11-May-2010 14:51
 Based on Minimum Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont Elev 3630.64 ft				Maximum Cont Elev 3657.00 ft				Minimum Cont Elev 3547.00 ft				Total	
		2010	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Boysen Release	kaf	83.5	77.8	76.9	69.2	59.5	46.1	41.8	43.2	43.2	39.0	43.1	44.6	667.9	
Boysen Release	cfs	1358	1307	1251	1125	1000	750	702	703	703	702	701	750		
Buffalo Bill Riv Flo	kaf	101.2	105.0	118.7	104.3	82.3	26.7	9.2	9.5	9.5	8.6	9.5	31.7	616.2	
Buffalo Bill Riv Flo	cfs	1646	1765	1930	1696	1383	434	155	155	155	155	155	533		
Station Gain	kaf	40.9	28.3	-135.7	-68.1	6.1	71.4	47.8	32.7	31.7	34.5	55.6	32.6	177.8	
Monthly Inflow	kaf	225.6	211.1	59.9	105.4	147.9	144.2	98.8	85.4	84.4	82.1	108.2	108.9	1461.9	
Monthly Inflow	cfs	3669	3548	974	1714	2486	2345	1660	1389	1373	1478	1760	1830		
Turbine Release	kaf	190.9	141.6	146.4	145.5	133.6	118.7	117.9	121.9	121.9	110.0	121.9	115.4	1585.7	
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	190.9	141.6	146.4	145.5	133.6	118.7	117.9	121.9	121.9	110.0	121.9	115.4	1585.7	
Total Release	cfs	3105	2380	2381	2366	2245	1930	1981	1983	1983	1981	1983	1939		
Spring Flow	kaf	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	3.9	4.3	4.2	50.8	
Irrigation Reqmnt	kaf	24.6	26.8	27.7	26.8	18.8	0.0	0.0	0.0	0.0	0.0	0.0	0.6	125.3	
Afterbay Rels	kaf	195.2	145.8	150.7	149.8	137.8	123.0	122.1	126.2	126.2	113.9	126.2	119.6	1636.5	
Afterbay Rels	cfs	3175	2450	2451	2436	2316	2000	2052	2052	2052	2051	2052	2010		
River Release	kaf	170.6	119.0	123.0	123.0	119.0	123.0	122.1	126.2	126.2	113.9	126.2	119.0	1511.2	
River Release	cfs	2775	2000	2000	2000	2000	2000	2052	2052	2052	2051	2052	2000		
Min Release	kaf	153.7	119.0	123.0	123.0	119.0	123.0	89.3	92.2	92.2	83.3	92.2	119.0	1328.9	
End-Month Targets	kaf		1070.0				1070.0					848.5			
End-Month Content	kaf	1000.5	1070.0	983.5	943.4	957.7	983.2	964.1	927.6	890.1	862.2	848.5	842.0		
End-Month Elevation	ft	3634.03	3640.00	3632.41	3628.29	3629.81	3632.38	3630.47	3626.54	3622.10	3618.50	3616.65	3615.75		
Net Change Content	kaf	34.7	69.5	-86.5	-40.1	14.3	25.5	-19.1	-36.5	-37.5	-27.9	-13.7	-6.5	-123.8	
Yellowtail Power	2010	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total	
Turbine Release	kaf	190.9	141.6	146.4	145.5	133.6	118.7	117.9	121.9	121.9	110.0	121.9	115.4	1585.7	
Generation	gwh	76.230	57.464	59.259	57.734	52.789	47.207	46.937	48.092	47.495	42.371	46.603	43.954	626.135	
End-Month Power Cap	mw	281.6	287.5	280.0	276.0	277.4	279.9	278.1	274.3	270.2	266.8	265.1	264.3		
% Max Gen		36	28	28	27	25	22	23	22	22	22	22	21		
Ave kwh/af		399	406	405	397	395	398	398	395	390	385	382	381	395	
Upstream Generation	gwh	26.388	25.635	27.222	24.411	19.876	9.241	5.426	5.612	5.599	5.041	5.792	10.754	170.997	
Total Generation	gwh	102.618	83.099	86.481	82.145	72.665	56.448	52.363	53.704	53.094	47.412	52.395	54.708	797.132	

BHXAOP V1.12 Run: 11-May-2010 14:55
 Based on Maximum Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont Elev 3630.64 ft				Maximum Cont Elev 3657.00 ft				Minimum Cont Elev 3547.00 ft				Total	
		2010	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Boysen Release	kaf	172.0	215.5	149.6	99.3	73.4	61.4	59.5	61.4	61.5	55.5	61.4	59.5	1130.0	
Boysen Release	cfs	2797	3622	2433	1615	1234	999	1000	999	1000	999	999	1000		
Buffalo Bill Riv Flo	kaf	101.2	105.0	118.7	107.5	88.5	44.5	28.9	21.8	21.8	19.7	21.8	31.7	711.1	
Buffalo Bill Riv Flo	cfs	1646	1765	1930	1748	1487	724	486	355	355	355	355	533		
Station Gain	kaf	85.0	173.1	-19.9	-35.5	28.6	75.6	58.2	41.0	41.1	46.6	69.3	27.9	591.0	
Monthly Inflow	kaf	358.2	493.6	248.4	171.3	190.5	181.5	146.6	124.2	124.4	121.8	152.5	119.1	2432.1	
Monthly Inflow	cfs	5826	8295	4040	2786	3201	2952	2464	2020	2023	2193	2480	2002		
Turbine Release	kaf	360.6	387.1	248.3	186.0	181.7	175.6	171.0	176.8	176.8	159.6	176.8	145.1	2545.4	
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	360.6	387.1	248.3	186.0	181.7	175.6	171.0	176.8	176.8	159.6	176.8	145.1	2545.4	
Total Release	cfs	5865	6505	4038	3025	3054	2856	2874	2875	2875	2874	2875	2438		
Spring Flow	kaf	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	3.9	4.3	4.2	50.8	
Irrigation Reqmnt	kaf	11.2	21.8	27.7	26.8	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	99.9	
Afterbay Rels	kaf	364.9	391.3	252.6	190.3	185.9	179.9	175.2	181.1	181.1	163.5	181.1	149.3	2596.2	
Afterbay Rels	cfs	5935	6576	4108	3095	3124	2926	2944	2945	2945	2944	2945	2509		
River Release	kaf	353.7	369.5	224.9	163.5	174.0	179.9	175.2	181.1	181.1	163.5	181.1	148.8	2496.3	
River Release	cfs	5752	6210	3658	2659	2924	2926	2944	2945	2945	2944	2945	2501		
Min Release	kaf	153.7	148.8	153.7	153.7	148.8	153.7	148.8	153.7	153.7	138.8	123.0	148.8	1779.2	
End-Month Targets	kaf			1070.0			1070.0					878.5			
End-Month Content	kaf	963.4	1069.9	1070.0	1055.3	1064.1	1070.0	1045.6	993.0	940.6	902.8	878.5	852.5		
End-Month Elevation	ft	3630.40	3639.99	3640.00	3638.81	3639.52	3640.00	3638.01	3633.32	3627.99	3623.65	3620.63	3617.20		
Net Change Content	kaf	-2.4	106.5	0.1	-14.7	8.8	5.9	-24.4	-52.6	-52.4	-37.8	-24.3	-26.0	-113.3	
Yellowtail Power	2010	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total	
Turbine Release	kaf	360.6	387.1	248.3	186.0	181.7	175.6	171.0	176.8	176.8	159.6	176.8	145.1	2545.4	
Generation	gwh	143.139	156.203	101.808	76.101	74.277	71.939	69.864	71.401	70.230	62.458	68.451	55.677	1021.548	
End-Month Power Cap	mw	278.0	287.5	287.5	286.3	287.0	287.5	285.5	280.9	275.7	271.6	268.8	265.6		
% Max Gen		67	75	48	36	36	34	34	33	33	32	32	27		
Ave kwh/af		397	404	410	409	409	410	409	404	397	391	387	384	401	
Upstream Generation	gwh	31.048	30.640	33.514	29.836	24.861	16.743	13.119	11.213	11.160	9.396	11.065	12.681	235.276	
Total Generation	gwh	174.187	186.843	135.322	105.937	99.138	88.682	82.983	82.614	81.390	71.854	79.516	68.358	1256.824	