

# RECLAMATION

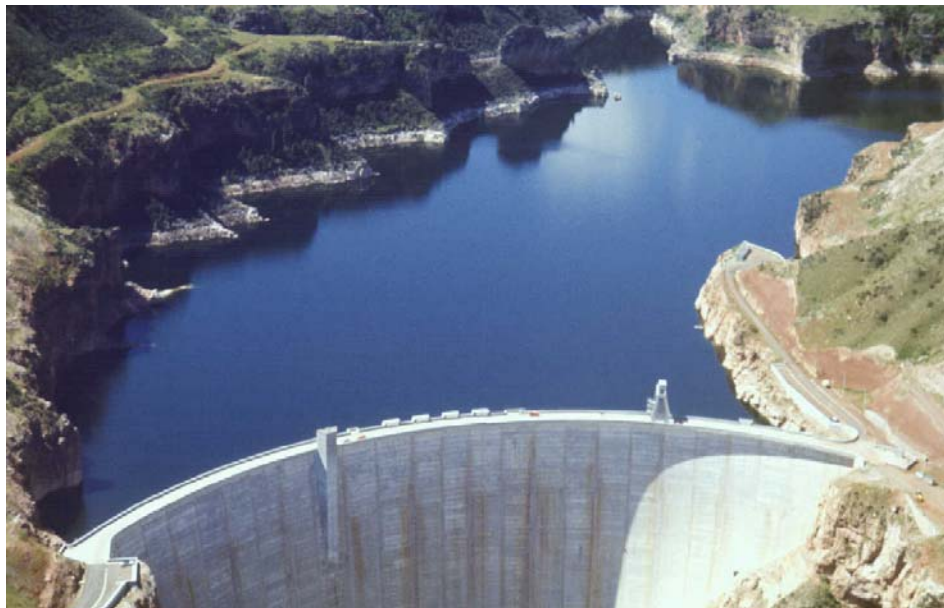
*Managing Water in the West*

February 7, 2007

Dear Customer:

Attached is the monthly water supply outlook and projected reservoir and river operating plans as prepared on February 7, 2007. Streamflows into Bighorn Lake continue to remain well below normal. Therefore, water users are advised to continue making plans to conserve the limited available water supply. We hope you find the information useful. 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, 2007

**Present Elevations & Storages:**

<u>Reservoir</u>	<u>Storage</u>	<u>Elevation</u>	<u>Percent of Normal</u>
Boysen	463,134	4707.81	---
Buffalo Bill	445,330	5366.86	---
Bighorn Lake	786,351	3607.27	91

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

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
January	107.2	76
February	93.8	65
March	126.9	71
April	106.0	61
May	184.0	71
June	163.6	37
July	74.7	23
<b>April-July, 2006</b>	<b>528.2</b>	<b>44</b>
August	82.2	48
September	127.2	71
<b>WY-2006 Total</b>	<b>1,432.9</b>	<b>57</b>
October	125.6	66
November	98.7	61
December	82.5	56
January	67.3	48

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

<u>Month</u>	<u>Gains</u>	<u>Percent of Normal</u>
January	44.0	93
February	38.1	66
March	58.9	75
April	28.3	60
May	54.4	63
June	-12.6	---
July	-72.5	---
<b>April-July, 2006</b>	<b>-2.5</b>	<b>---</b>
August	-48.5	---
September	33.4	77
<b>WY-2006 Total</b>	<b>280.6</b>	<b>39</b>
October	73.5	97
November	56.9	88
December	39.6	84
January	23.9	51

**February Forecast of April-July Inflow (1,000 Acre-Feet):**

<u>Agency</u>	<u>Inflows</u>	<u>Percent of Normal</u>
<b>USBR</b>	<b>670</b>	<b>56</b>

**Snowpack Conditions:**

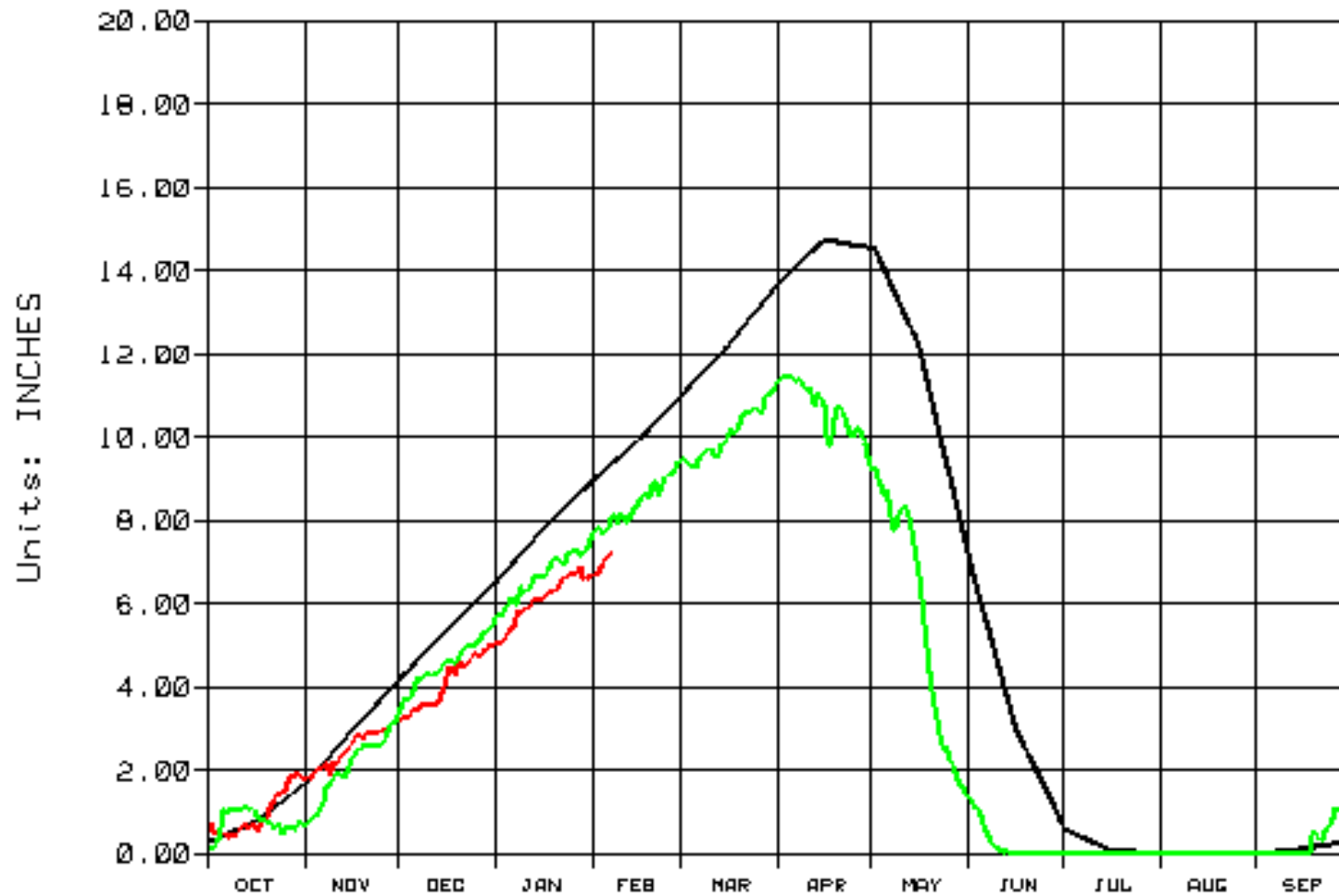
Based on Mountain Data from NRCS SNOTEL Sites  
 As of THURSDAY: FEBRUARY 1, 2007

BASIN Data Site Name	ELEV. (Ft)	SNOW WATER EQUIVALENT			TOTAL PRECIPITATION		
		Current	Average	Avg %	Current	Average	Avg %
-----							
UPPER YELLOWSTONE RIVER BASIN							
BEARTOOTH LAKE	9275	12.1	16.2	75	12.3	14.0	88
BOX CANYON	6700	4.9	6.7	73	9.9	8.4	118

BRACKETT CREEK	7320	5.5	13.3	41	11.1	17.1	65
BURNT MTN	5880	2.1	-M	*	8.8	-M	*
CANYON	8090	7.0	8.9	79	10.0	10.8	93
COLE CREEK	7850	6.2	9.8	63	8.2	10.4	79
EVENING STAR	9200	14.6	19.7	74	17.9	17.6	102
FISHER CREEK	9100	20.3	23.8	85	20.9	24.6	85
MONUMENT PEAK	8850	11.2	14.2	79	13.3	14.6	91
NORTHEAST ENTRANCE	7350	4.9	7.7	64	9.0	8.9	101
PARKER PEAK	9400	11.5	14.8	78	11.4	11.1	103
PLACER BASIN	8830	9.5	11.7	81	12.8	12.6	102
PORCUPINE	6500	1.8	4.5	40	7.9	7.8	101
SACAJAWEA	6550	3.7	8.9	42	12.2	-M	*
SHOWER FALLS	8100	11.4	14.0	81	14.9	15.6	96
S FORK SHIELDS	8100	5.1	10.7	48	11.8	12.9	91
SYLVAN LAKE	8420	9.2	15.2	61	14.2	14.8	96
SYLVAN ROAD	7120	5.9	8.8	67	11.5	13.3	86
THUMB DIVIDE	7980	8.0	11.8	68	9.9	12.7	78
TWO OCEAN PLATEAU	9240	15.6	19.0	82	15.9	18.5	86
WHITE MILL	8700	11.9	16.1	74	13.7	18.3	75
WOLVERINE	7650	6.2	8.6	72	7.4	9.2	80
YOUNTS PEAK	8350	7.3	12.0	61	9.6	11.4	84
Basin wide percent of average				70			89
WIND RIVER BASIN (WYOMING)							
BURROUGHS CREEK	8750	8.5	10.1	84	10.2	11.3	90
COLD SPRINGS	9630	4.0	6.0	67	5.3	7.1	75
DEER PARK	9700	6.8	11.7	58	9.8	14.5	68
HOBBS PARK	10100	6.6	9.8	67	6.8	8.2	83
KIRWIN	9550	6.3	7.7	82	7.8	7.6	103
LITTLE WARM	9370	5.3	7.8	68	6.7	9.1	74
OWL CREEK	8975	4.0	3.4	118	4.6	3.7	124
SOUTH PASS	9040	8.0	11.4	70	9.4	12.2	77
ST. LAWRENCE ALT	8620	3.4	4.8	71	4.9	5.7	86
TOGWOTEE PASS	9580	12.1	16.9	72	13.9	16.8	83
TOWNSEND CREEK	8700	4.5	5.6	80	7.1	7.3	97
YOUNTS PEAK	8350	7.3	12.0	61	9.6	11.4	84
Basin wide percent of average				72			84
SHOSHONE RIVER BASIN (WYOMING)							
BLACKWATER	9780	13.0	16.6	78	12.8	14.2	90
EVENING STAR	9200	14.6	19.7	74	17.9	17.6	102
MARQUETTE	8760	1.6	5.9	27	5.4	6.2	87
SYLVAN LAKE	8420	9.2	15.2	61	14.2	14.8	96
SYLVAN ROAD	7120	5.9	8.8	67	11.5	13.3	86
YOUNTS PEAK	8350	7.3	12.0	61	9.6	11.4	84
Basin wide percent of average				66			92
BIGHORN RIVER BASIN (WYOMING)							
BALD MTN.	9380	11.1	13.5	82	9.0	11.8	76
BEAR TRAP MEADOW	8200	3.1	3.5	89	4.1	5.5	75
BLACKWATER	9780	13.0	16.6	78	12.8	14.2	90
BONE SPRINGS DIV	9350	10.3	10.6	97	8.7	9.6	91
EVENING STAR	9200	14.6	19.7	74	17.9	17.6	102
GRAVE SPRINGS	8550	3.8	5.7	67	4.5	6.4	70
KIRWIN	9550	6.3	7.7	82	7.8	7.6	103
MARQUETTE	8760	1.6	5.9	27	5.4	6.2	87
MIDDLE POWDER	7760	4.9	7.2	68	5.3	8.3	64
OWL CREEK	8975	4.0	3.4	118	4.6	3.7	124
POWDER RIVER PASS	9480	5.0	7.2	69	5.9	8.3	71
SHELL CREEK	9580	8.7	9.9	88	6.7	9.3	72
SYLVAN LAKE	8420	9.2	15.2	61	14.2	14.8	96
SYLVAN ROAD	7120	5.9	8.8	67	11.5	13.3	86
TIMBER CREEK	7950	1.5	3.6	42	4.4	4.5	98
YOUNTS PEAK	8350	7.3	12.0	61	9.6	11.4	84
Basin wide percent of average				73			87

Data From 1-OCT Through 30-SEP

Plotted 02/06/2007 09:06



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

—SEAVE Snow Water Equivalent Average (inches)  
—SE Snow Water Equivalent (inches)

2007

2007 2006

BHXAOP V1.12 Run: 06-Feb-2007 10:12  
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont Elev 3607.28 ft				Maximum Cont Elev 3657.00 ft				Minimum Cont Elev 3547.00 ft				Total
	2007	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Boysen Release	kaf	27.8	30.7	44.6	67.6	69.9	73.8	69.2	59.5	36.9	35.7	36.9	36.9	589.5
Boysen Release	cfs	501	499	750	1099	1175	1200	1125	1000	600	600	600	600	
Buffalo Bill Riv Flo	kaf	11.1	12.3	24.4	64.9	62.7	70.4	63.0	50.0	18.4	8.9	9.2	9.2	404.5
Buffalo Bill Riv Flo	cfs	200	200	410	1055	1054	1145	1025	840	299	150	150	150	
Station Gain	kaf	28.4	68.9	41.1	60.0	100.5	-9.6	-2.1	36.9	70.8	58.3	41.9	44.3	539.4
Monthly Inflow	kaf	67.3	111.9	110.1	192.5	233.1	134.6	130.1	146.4	126.1	102.9	88.0	90.4	1533.4
Monthly Inflow	cfs	1212	1820	1850	3131	3917	2189	2116	2460	2051	1729	1431	1470	
Turbine Release	kaf	79.4	87.9	85.6	99.1	106.9	115.6	127.0	163.4	149.4	144.6	149.4	149.4	1457.7
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	79.4	87.9	85.6	99.1	106.9	115.6	127.0	163.4	149.4	144.6	149.4	149.4	1457.7
Total Release	cfs	1430	1430	1439	1612	1797	1880	2065	2746	2430	2430	2430	2430	
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	0.5	11.2	21.8	27.7	26.8	18.8	0.0	0.0	0.0	0.0	106.8
Afterbay Rels	kaf	83.3	92.2	89.8	103.4	111.1	119.9	131.3	167.6	153.7	148.8	153.7	153.7	1508.5
Afterbay Rels	cfs	1500	1499	1509	1682	1867	1950	2135	2817	2500	2501	2500	2500	
River Release	kaf	83.3	92.2	89.3	92.2	89.3	92.2	104.5	148.8	153.7	148.8	153.7	153.7	1401.7
River Release	cfs	1500	1499	1501	1499	1501	1499	1700	2501	2500	2501	2500	2500	
Min Release	kaf	83.3	92.2	89.3	92.2	89.3	92.2	104.5	148.8	153.7	148.8	153.7	153.7	1401.7
End-Month Targets	kaf						1070.0							
End-Month Content	kaf	774.3	798.3	822.8	916.2	1042.4	1061.4	1064.5	1047.5	1024.2	982.5	921.1	862.1	
End-Month Elevation	ft	3605.24	3609.21	3612.99	3625.24	3637.74	3639.31	3639.56	3638.17	3636.17	3632.31	3625.80	3618.49	
Net Change Content	kaf	-12.1	24.0	24.5	93.4	126.2	19.0	3.1	-17.0	-23.3	-41.7	-61.4	-59.0	75.7
Yellowtail Power	2007	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Turbine Release	kaf	79.4	87.9	85.6	99.1	106.9	115.6	127.0	163.4	149.4	144.6	149.4	149.4	1457.7
Generation	gwh	29.496	32.732	32.179	38.081	42.635	47.147	51.966	66.723	60.640	58.110	59.056	57.862	576.627
End-Month Power Cap	mw	254.7	258.3	261.7	273.1	285.2	286.8	287.1	285.7	283.7	279.9	273.6	266.8	
% Max Gen		15	15	16	18	21	22	24	32	28	28	28	27	
Ave kwh/af		371	372	376	384	399	408	409	408	406	402	395	387	396
Upstream Generation	gwh	4.451	5.540	11.296	25.195	25.558	28.038	25.775	21.172	9.152	4.879	5.075	5.086	171.217
Total Generation	gwh	33.947	38.272	43.475	63.276	68.193	75.185	77.741	87.895	69.792	62.989	64.131	62.948	747.844

BIGHORN LAKE MONTHLY OPERATIONS

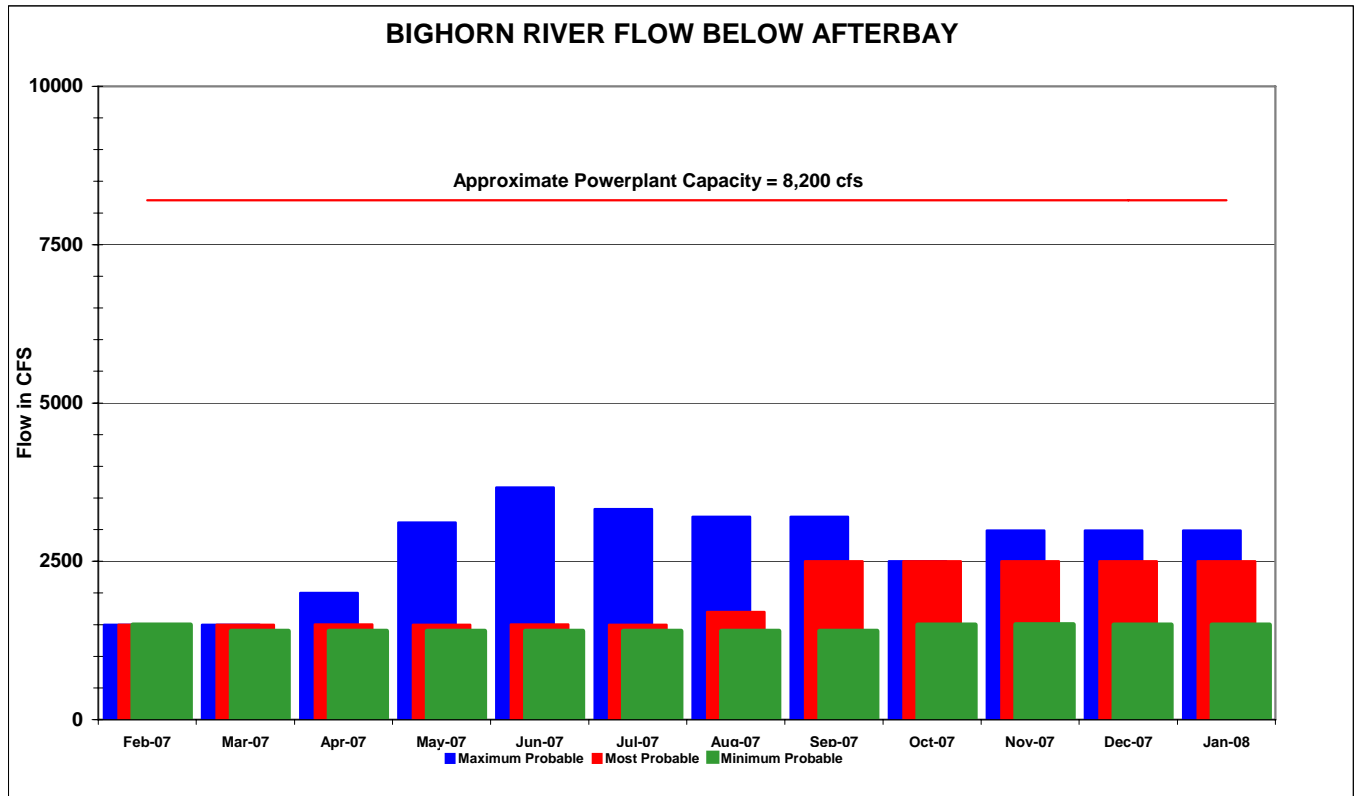
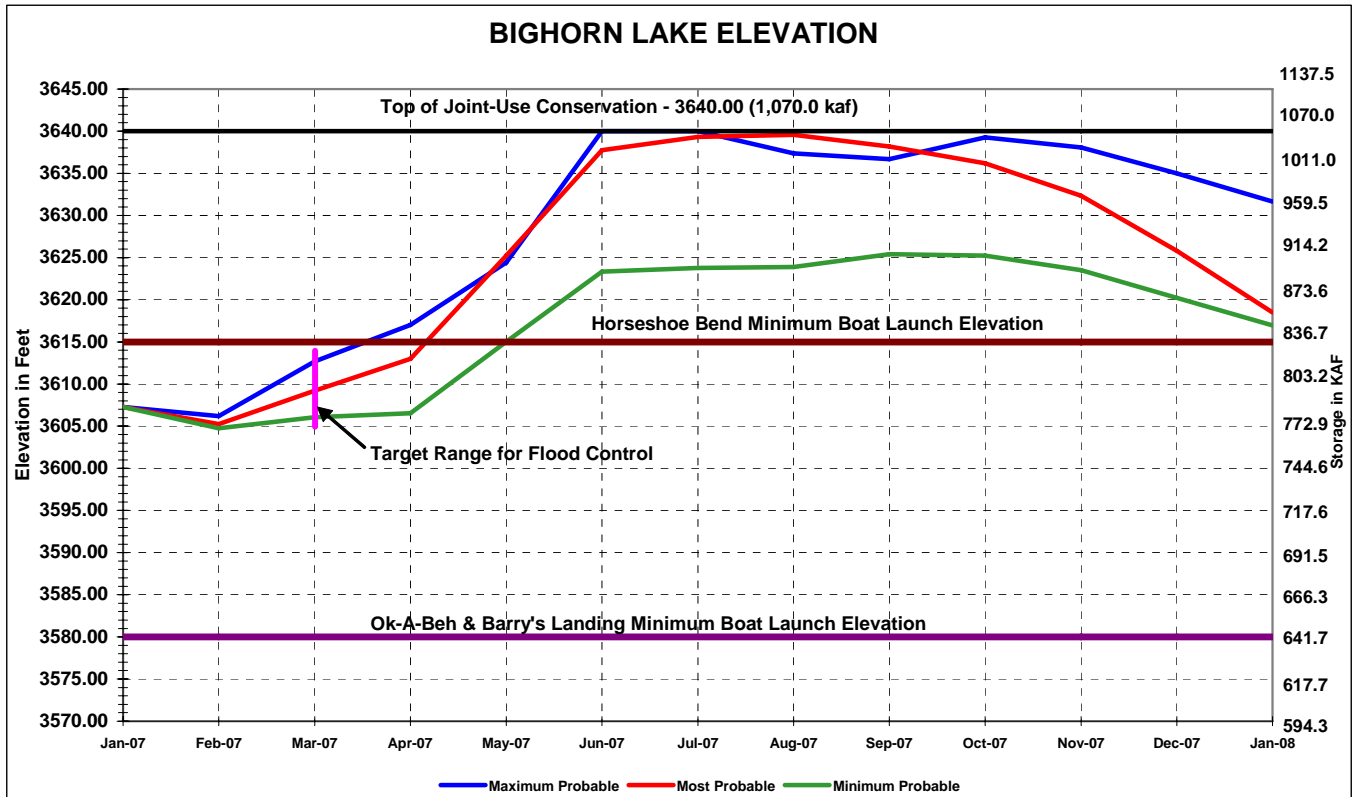
Bighorn Reservoir		Initial Cont 786.4 kaf Elev 3607.28 ft				Maximum Cont 1328.4 kaf Elev 3657.00 ft				Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2007	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Boysen Release	kaf	27.8	30.7	38.7	60.0	68.4	68.9	60.3	44.6	30.7	29.8	30.7	30.7	521.3
Boysen Release	cfs	501	499	650	976	1150	1121	981	750	499	501	499	499	
Buffalo Bill Riv Flo	kaf	11.1	12.3	24.4	64.9	62.7	70.4	63.0	50.0	18.4	8.9	9.2	9.2	404.5
Buffalo Bill Riv Flo	cfs	200	200	410	1055	1054	1145	1025	840	299	150	150	150	
Station Gain	kaf	25.6	46.5	19.2	23.0	33.2	-26.3	-13.6	16.0	37.4	31.9	21.6	23.6	238.1
Monthly Inflow	kaf	64.5	89.5	82.3	147.9	164.3	113.0	109.7	110.6	86.5	70.6	61.5	63.5	1163.9
Monthly Inflow	cfs	1161	1456	1383	2405	2761	1838	1784	1859	1407	1186	1000	1033	
Turbine Release	kaf	79.4	81.8	79.6	93.0	100.9	109.5	108.6	97.9	87.9	85.1	87.9	87.9	1099.5
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	79.4	81.8	79.6	93.0	100.9	109.5	108.6	97.9	87.9	85.1	87.9	87.9	1099.5
Total Release	cfs	1430	1330	1338	1513	1696	1781	1766	1645	1430	1430	1430	1430	
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	0.5	11.2	21.8	27.7	26.8	18.8	0.0	0.0	0.0	0.0	106.8
Afterbay Rels	kaf	83.3	86.1	83.8	97.3	105.1	113.8	112.9	102.1	92.2	89.3	92.2	92.2	1150.3
Afterbay Rels	cfs	1500	1400	1408	1582	1766	1851	1836	1716	1499	1501	1499	1499	
River Release	kaf	83.3	86.1	83.3	86.1	83.3	86.1	86.1	83.3	92.2	89.3	92.2	92.2	1043.5
River Release	cfs	1500	1400	1400	1400	1400	1400	1400	1400	1499	1501	1499	1499	
Min Release	kaf	83.3	86.1	83.3	86.1	83.3	86.1	86.1	83.3	92.2	89.3	92.2	92.2	1043.5
End-Month Targets	kaf						1070.0							
End-Month Content	kaf	771.5	779.2	781.9	836.8	900.2	903.7	904.8	917.5	916.1	901.6	875.2	850.8	
End-Month Elevation	ft	3604.76	3606.07	3606.53	3615.02	3623.33	3623.76	3623.89	3625.39	3625.22	3623.50	3620.21	3616.96	
Net Change Content	kaf	-14.9	7.7	2.7	54.9	63.4	3.5	1.1	12.7	-1.4	-14.5	-26.4	-24.4	64.4
Yellowtail Power	2007	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Turbine Release	kaf	79.4	81.8	79.6	93.0	100.9	109.5	108.6	97.9	87.9	85.1	87.9	87.9	1099.5
Generation	gwh	29.480	30.327	29.573	34.945	38.759	42.562	42.246	38.174	34.341	33.157	34.005	33.698	421.267
End-Month Power Cap	mw	254.3	255.5	255.9	263.6	271.3	271.7	271.8	273.2	273.1	271.5	268.4	265.4	
% Max Gen		15	14	14	16	19	20	20	18	16	16	16	16	
Ave kwh/af		371	371	372	376	384	389	389	390	391	390	387	383	383
Upstream Generation	gwh	4.442	5.518	10.817	24.279	24.495	26.123	23.360	18.613	8.050	4.013	4.176	4.194	158.080
Total Generation	gwh	33.922	35.845	40.390	59.224	63.254	68.685	65.606	56.787	42.391	37.170	38.181	37.892	579.347

BHXAOP V1.12 Run: 06-Feb-2007 13:55  
 Based on Maximum Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont Elev 3607.28 ft				Maximum Cont Elev 3657.00 ft				Minimum Cont Elev 3547.00 ft				Total
	2007	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Boysen Release	kaf	27.8	30.7	50.6	70.7	97.0	100.2	94.4	68.4	70.8	68.5	70.8	70.8	820.7
Boysen Release	cfs	501	499	850	1150	1630	1630	1535	1150	1151	1151	1151	1151	
Buffalo Bill Riv Flo	kaf	11.1	12.3	40.1	82.8	106.5	96.6	78.0	75.5	24.9	20.8	21.5	21.5	591.6
Buffalo Bill Riv Flo	cfs	200	200	674	1347	1790	1571	1269	1269	405	350	350	350	
Station Gain	kaf	34.1	85.7	55.1	102.7	193.1	31.1	14.8	53.4	84.4	69.8	51.8	52.0	828.0
Monthly Inflow	kaf	73.0	128.7	145.8	256.2	396.6	227.9	187.2	197.3	180.1	159.1	144.1	144.3	2240.3
Monthly Inflow	cfs	1314	2093	2450	4167	6665	3706	3045	3316	2929	2674	2344	2347	
Turbine Release	kaf	79.4	87.9	115.3	198.4	235.7	227.9	219.3	205.1	149.4	173.6	179.4	179.4	2050.8
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	79.4	87.9	115.3	198.4	235.7	227.9	219.3	205.1	149.4	173.6	179.4	179.4	2050.8
Total Release	cfs	1430	1430	1938	3227	3961	3706	3567	3447	2430	2917	2918	2918	
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	0.5	11.2	21.8	27.7	26.8	18.8	0.0	0.0	0.0	0.0	106.8
Afterbay Rels	kaf	83.3	92.2	119.5	202.7	239.9	232.2	223.6	209.3	153.7	177.8	183.7	183.7	2101.6
Afterbay Rels	cfs	1500	1499	2008	3297	4032	3776	3637	3517	2500	2988	2988	2988	
River Release	kaf	83.3	92.2	119.0	191.5	218.1	204.5	196.8	190.5	153.7	177.8	183.7	183.7	1994.8
River Release	cfs	1500	1499	2000	3114	3665	3326	3201	3201	2500	2988	2988	2988	
Min Release	kaf	83.3	92.2	119.0	153.7	148.8	153.7	153.7	148.8	153.7	148.8	153.7	183.7	1693.1
End-Month Targets	kaf					1070.0	1070.0							
End-Month Content	kaf	780.0	820.8	851.3	909.1	1070.0	1070.0	1037.9	1030.1	1060.8	1046.3	1011.0	975.9	
End-Month Elevation	ft	3606.21	3612.69	3617.03	3624.40	3640.00	3640.00	3637.36	3636.69	3639.26	3638.07	3635.00	3631.66	
Net Change Content	kaf	-6.4	40.8	30.5	57.8	160.9	0.0	-32.1	-7.8	30.7	-14.5	-35.3	-35.1	189.5
Yellowtail Power	2007	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Turbine Release	kaf	79.4	87.9	115.3	198.4	235.7	227.9	219.3	205.1	149.4	173.6	179.4	179.4	2050.8
Generation	gwh	29.530	32.914	43.766	76.531	94.310	93.445	89.495	83.201	60.815	70.837	72.658	71.871	819.373
End-Month Power Cap	mw	255.6	261.5	265.5	272.3	287.5	287.5	284.9	284.2	286.8	285.6	282.5	279.2	
% Max Gen		15	15	21	36	45	44	42	40	28	34	34	34	
Ave kwh/af		372	374	380	386	400	410	408	406	407	408	405	401	400
Upstream Generation	gwh	4.460	5.568	16.155	28.543	30.683	32.409	31.941	28.734	14.227	11.750	12.070	11.958	228.498
Total Generation	gwh	33.990	38.482	59.921	105.074	124.993	125.854	121.436	111.935	75.042	82.587	84.728	83.829	1047.871

# BIGHORN LAKE



WATER YEAR 2007