

RECLAMATION

Managing Water in the West

May 1, 2009

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 110 percent of average and 3.7 feet lower than on April 1. Based on streamflow accretions accompanied by the planned releases out of Boysen and Buffalo Bill Reservoirs and the water supply forecast prepared on May 1, the May-July inflow to Bighorn Lake is expected to be 120 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, 2009

Present Elevations & Storages:

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4717.26	601,615	124
Buffalo Bill	5365.46	436,096	114
Bighorn Lake	3623.47	901,305	110

Actual Inflows (1,000 Acre-Feet):

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
April	80.9	50
May	291.6	118
June	595.1	144
July	330.6	114
August	129.6	81
September	184.6	107
April-July, 2008	1,298.3	117
WY-2008 Total	2,133.2	91
October	151.2	83
November	118.9	78
December	98.0	71
January	112.0	84
February	113.0	84
March	138.6	82
April	142.6	87

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

<u>Month</u>	<u>Gains</u>	<u>Percent of Normal</u>
April	20.7	45
May	120.4	143
June	179.7	118
July	29.4	535
August	-19.1	---
September	63.4	138
April-July, 2008	350.3	122
WY-2008 Total	702.8	100
October	70.3	90
November	51.2	79
December	33.0	71
January	47.2	101
February	54.2	96
March	67.8	88
April	55.5	120

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

<u>Agency</u>	<u>Gains</u>	<u>Percent of Normal</u>
USBR	252.8	105
	<u>Inflows</u>	
USBR	1,143.2	120

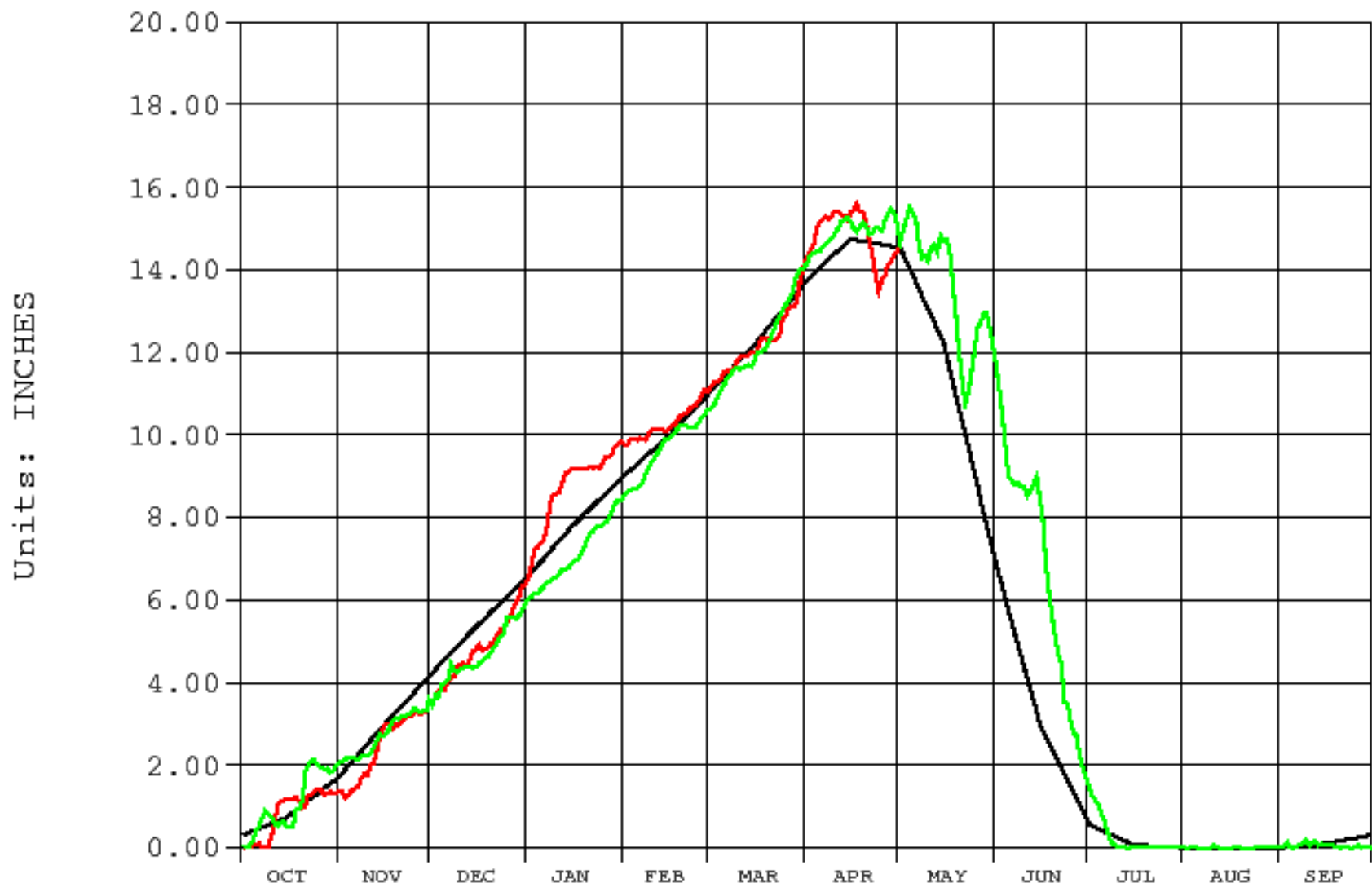
Snowpack Conditions:

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 FRIDAY: MAY 1 , 2009

<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	26.5	25.9	102	24.5	23.4	105
BOX CANYON	6670	11.1	6.4	173	18.6	14.8	126

BRACKETT CREEK	7320	25.5	21.6	118	33.9	30.4	112
BURNT MTN	5880	6.4	1.4	457	20.4	20.0	102
CANYON	7870	14.7	11.5	128	18.5	17.6	105
COLE CREEK	7850	22.9	19.7	116	19.4	21.7	89
EAST BOULDER MINE	6335	4.2	-M	*	17.4	-M	*
EVENING STAR	9200	32.0	33.2	96	35.8	29.8	120
FISHER CREEK	9100	39.9	37.8	106	39.8	41.7	95
MONUMENT PEAK	8850	26.8	23.3	115	-M	24.7	*
NORTHEAST ENTRANCE	7350	5.8	7.4	78	15.8	14.7	107
PARKER PEAK	9400	32.0	24.5	131	22.5	19.4	116
PLACER BASIN	8830	25.5	19.8	129	28.6	23.3	123
PORCUPINE	6500	4.1	3.7	111	15.2	14.8	103
SACAJAWEA	6550	13.9	13.4	104	31.4	27.3	115
SHOWER FALLS	8100	32.6	27.0	121	33.7	30.3	111
S FORK SHIELDS	8100	21.3	19.7	108	25.4	25.4	100
SYLVAN LAKE	8420	21.9	23.9	92	27.7	24.6	113
SYLVAN ROAD	7120	7.3	8.4	87	22.4	20.4	110
THUMB DIVIDE	7980	20.4	15.3	133	25.2	21.9	115
TWO OCEAN PLATEAU	9240	44.2	31.8	139	34.3	32.0	107
WHITE MILL	8700	27.3	26.4	103	27.5	31.1	88
WOLVERINE	7650	9.6	7.4	130	14.9	15.1	99
YOUNTS PEAK	8350	20.1	18.2	110	18.9	18.7	101
Basin wide percent of average				115			107
WIND RIVER BASIN (WYOMING)							
BURROUGHS CREEK	8750	18.3	13.8	133	20.3	19.2	106
COLD SPRINGS	9630	9.8	4.9	200	14.8	13.8	107
DEER PARK	9700	15.3	19.0	81	21.9	26.8	82
HOBBS PARK	10100	18.6	18.0	103	20.0	16.8	119
KIRWIN	9550	15.5	13.0	119	18.2	14.1	129
LITTLE WARM	9370	13.5	11.3	119	18.6	16.7	111
OWL CREEK	8975	4.9	4.1	120	9.5	8.1	117
SOUTH PASS	9040	15.6	18.1	86	19.4	22.6	86
ST. LAWRENCE ALT	8620	8.0	6.3	127	14.3	12.0	119
TOGWOTEE PASS	9580	31.3	27.9	112	34.3	28.8	119
TOWNSEND CREEK	8700	11.5	9.2	125	17.1	15.4	111
YOUNTS PEAK	8350	20.1	18.2	110	18.9	18.7	101
Basin wide percent of average				111			107
SHOSHONE RIVER BASIN (WYOMING)							
BLACKWATER	9780	29.9	28.7	104	27.5	24.6	112
EVENING STAR	9200	32.0	33.2	96	35.8	29.8	120
MARQUETTE	8760	8.9	11.2	79	12.4	13.6	91
SYLVAN LAKE	8420	21.9	23.9	92	27.7	24.6	113
SYLVAN ROAD	7120	7.3	8.4	87	22.4	20.4	110
YOUNTS PEAK	8350	20.1	18.2	110	18.9	18.7	101
Basin wide percent of average				97			110
BIGHORN RIVER BASIN (WYOMING)							
BALD MTN.	9380	20.2	23.5	86	17.8	21.2	84
BEAR TRAP MEADOW	8200	5.8	2.7	215	11.7	10.8	108
BLACKWATER	9780	29.9	28.7	104	27.5	24.6	112
BONE SPRINGS DIV	9350	17.7	18.3	97	16.8	18.2	92
EVENING STAR	9200	32.0	33.2	96	35.8	29.8	120
GRAVE SPRINGS	8550	9.7	11.1	87	12.2	13.0	94
KIRWIN	9550	15.5	13.0	119	18.2	14.1	129
MARQUETTE	8760	8.9	11.2	79	12.4	13.6	91
MIDDLE POWDER	7760	12.0	14.5	83	12.4	15.7	79
OWL CREEK	8975	4.9	4.1	120	9.5	8.1	117
POWDER RIVER PASS	9480	12.6	10.9	116	18.2	15.7	116
SHELL CREEK	9580	18.1	16.9	107	18.2	16.7	109
SYLVAN LAKE	8420	21.9	23.9	92	27.7	24.6	113
SYLVAN ROAD	7120	7.3	8.4	87	22.4	20.4	110
TIMBER CREEK	7950	5.2	4.9	106	11.8	10.4	113
YOUNTS PEAK	8350	20.1	18.2	110	18.9	18.7	101
Basin wide percent of average				99			106

Archive Data From 1-OCT Through 30-SEP
Plotted 05/01/2009 09:05



BHR Bighorn Lake (Yellowtail), Bighorn River near Fort Smith, MT
SE_AVG Snow Water Equivalent Average (inches)
SE Snow Water Equivalent (inches)

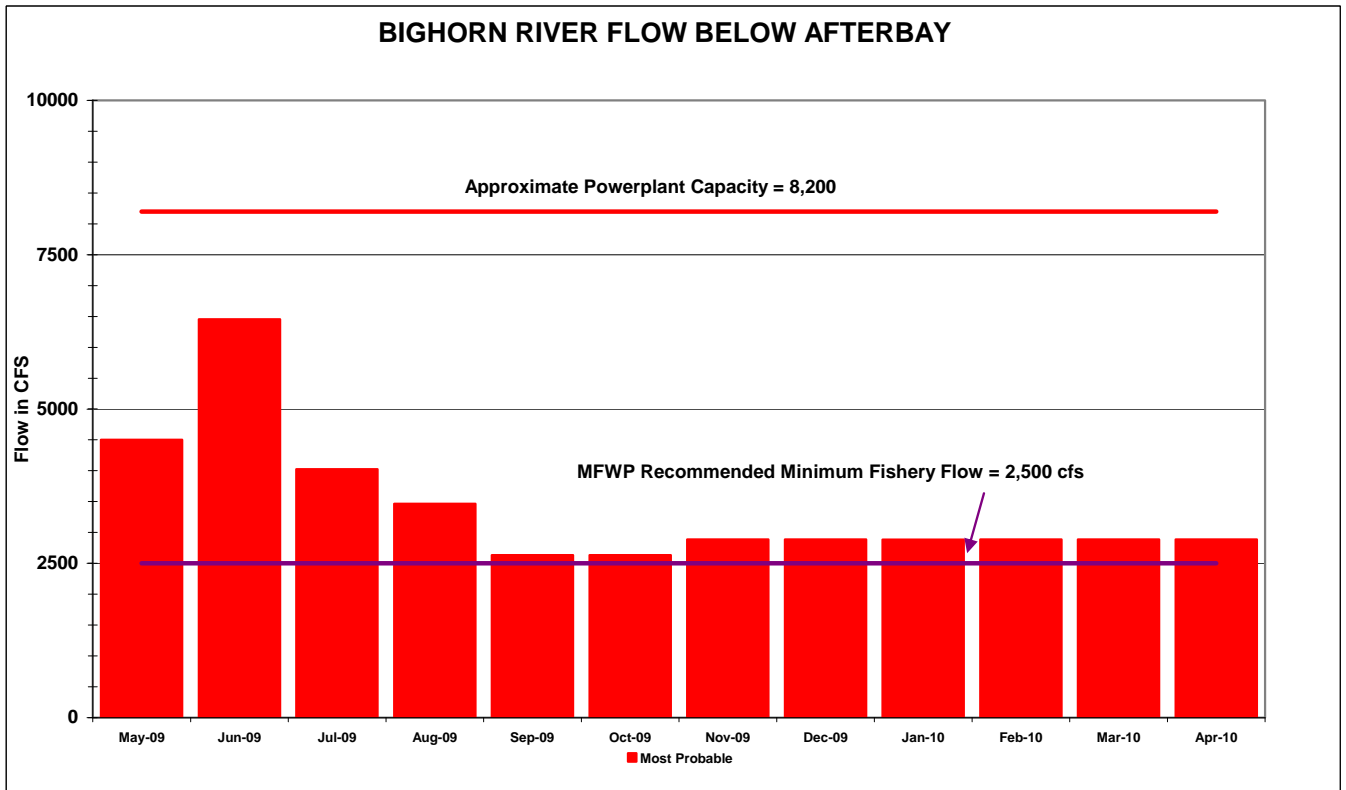
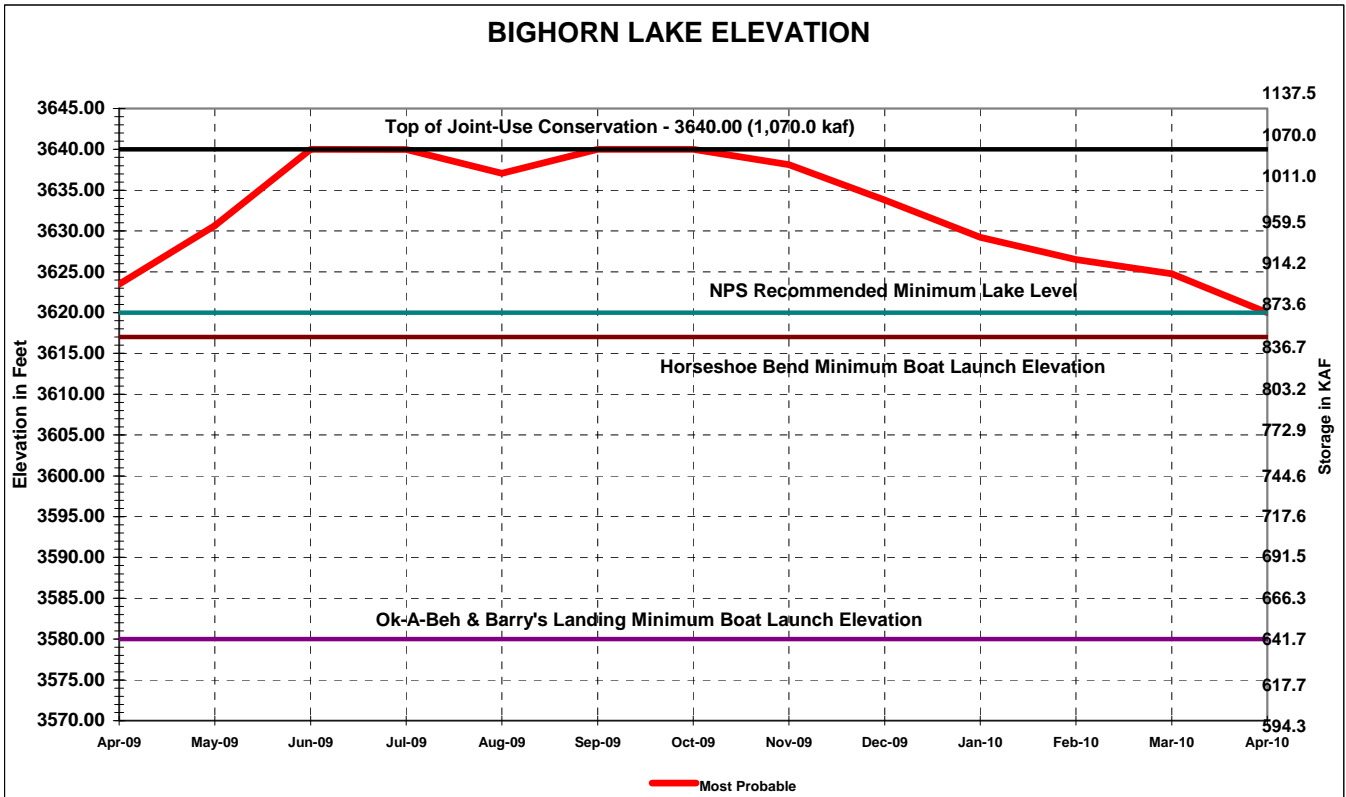
2009
2009 2008

BHXAOP V1.12 Run: 08-May-2009 11:04
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont 901.3 kaf Elev 3623.47 ft				Maximum Cont 1328.4 kaf Elev 3657.00 ft				Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
Boysen Release	kaf	156.6	212.4	147.5	104.3	79.5	55.3	53.6	55.3	55.3	50.0	55.3	53.6	1078.7
Boysen Release	cfs	2547	3570	2399	1696	1336	899	901	899	899	900	899	901	
Buffalo Bill Riv Flo	kaf	115.3	145.0	113.6	85.2	78.9	26.2	25.4	21.5	21.5	19.4	21.5	24.4	697.9
Buffalo Bill Riv Flo	cfs	1875	2437	1848	1386	1326	426	427	350	350	349	350	410	
Station Gain	kaf	89.9	153.3	9.6	10.6	48.8	80.0	65.5	47.5	50.2	62.1	81.4	51.6	750.5
Monthly Inflow	kaf	361.8	510.7	270.7	200.1	207.2	161.5	144.5	124.3	127.0	131.5	158.2	129.6	2527.1
Monthly Inflow	cfs	5884	8583	4403	3254	3482	2627	2428	2022	2065	2368	2573	2178	
Turbine Release	kaf	297.1	406.7	270.8	235.7	171.3	161.7	167.5	173.2	173.1	156.4	173.2	168.1	2554.8
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	297.1	406.7	270.8	235.7	171.3	161.7	167.5	173.2	173.1	156.4	173.2	168.1	2554.8
Total Release	cfs	4832	6835	4404	3833	2879	2630	2815	2817	2815	2816	2817	2825	
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	301.4	410.9	275.1	240.0	175.5	166.0	171.7	177.5	177.4	160.3	177.5	172.3	2605.6
Afterbay Rels	cfs	4902	6905	4474	3903	2949	2700	2886	2887	2885	2886	2887	2896	
River Release	kaf	276.8	384.1	247.4	213.2	156.7	161.9	171.7	177.5	177.4	160.3	177.5	171.7	2476.2
River Release	cfs	4502	6455	4024	3467	2633	2633	2886	2887	2885	2886	2887	2886	
Min Release	kaf	184.5	148.8	153.7	153.7	148.8	153.7	148.8	153.7	153.7	138.8	153.7	169.6	1861.5
End-Month Targets	kaf		1070.0				1070.0							873.6
End-Month Content	kaf	966.0	1070.0	1069.9	1034.3	1070.2	1070.0	1047.0	998.1	952.0	927.1	912.1		873.6
End-Month Elevation	ft	3630.66	3640.00	3639.99	3637.05	3640.01	3640.00	3638.13	3633.80	3629.21	3626.49	3624.76		3620.00
Net Change Content	kaf	64.7	104.0	-0.1	-35.6	35.9	-0.2	-23.0	-48.9	-46.1	-24.9	-15.0	-38.5	-27.7
Yellowtail Power	2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Turbine Release	kaf	297.1	406.7	270.8	235.7	171.3	161.7	167.5	173.2	173.1	156.4	173.2	168.1	2554.8
Generation	gwh	116.736	164.181	111.034	96.135	69.871	66.303	68.448	70.017	68.943	61.574	67.732	65.133	1026.107
End-Month Power Cap	mw	278.3	287.5	287.5	284.5	287.5	287.5	285.6	281.3	276.9	274.3	272.7	268.2	
% Max Gen		54	79	52	45	34	31	33	33	32	32	32	31	
Ave kwh/af		393	404	410	408	408	410	409	404	398	394	391	387	402
Upstream Generation	gwh	34.614	33.734	35.213	32.716	29.465	13.131	11.622	10.615	10.556	9.481	10.465	12.042	243.654
Total Generation	gwh	151.350	197.915	146.247	128.851	99.336	79.434	80.070	80.632	79.499	71.055	78.197	77.175	1269.761

BIGHORN LAKE



WATER YEAR 2009