

RECLAMATION

Managing Water in the West

January 1, 2009

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans prepared in January 2009. Storage in Bighorn Lake on January 1 is at 108 percent of average and 4.30 feet lower than on December 1. Based on streamflow accretions, accompanied by the planned releases out of Boysen and Buffalo Bill Reservoirs, and the water supply forecast prepared on January 1, the April-July inflow to Bighorn Lake is expected to be 85 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
 January 1, 2009

Present Elevations & Storages:

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4717.94	612,893	115
Buffalo Bill	5367.87	452,816	111
Bighorn Lake	3633.15	991,171	108

Actual Inflows (1,000 Acre-Feet):

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
December	66.3	48
January	66.3	50
February	68.0	50
March	86.1	51
April	80.9	50
May	291.6	118
June	595.1	144
July	330.6	114
August	129.6	81
September	184.6	107
<i>April-July, 2008</i>	<i>1,298.3</i>	<i>117</i>
<i>WY-2008 Total</i>	<i>2,133.2</i>	<i>91</i>
October	151.2	83
November	118.9	78
December	98.0	71

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

<u>Month</u>	<u>Gains</u>	<u>Percent of Normal</u>
December	32.3	71
January	32.2	69
February	36.0	63
March	52.2	68
April	20.7	45
May	120.4	143
June	179.7	118
July	29.4	535
August	-19.1	---
September	63.4	138
<i>April-July, 2008</i>	<i>350.3</i>	<i>122</i>
<i>WY-2008 Total</i>	<i>702.8</i>	<i>100</i>
October	70.3	90
November	51.2	79
December	33.0	71

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

<u>Agency</u>	<u>Gains</u>	<u>Percent of Normal</u>
USBR	270.0	94
	<u>Inflows</u>	
USBR	948.8	85

Snowpack Conditions:

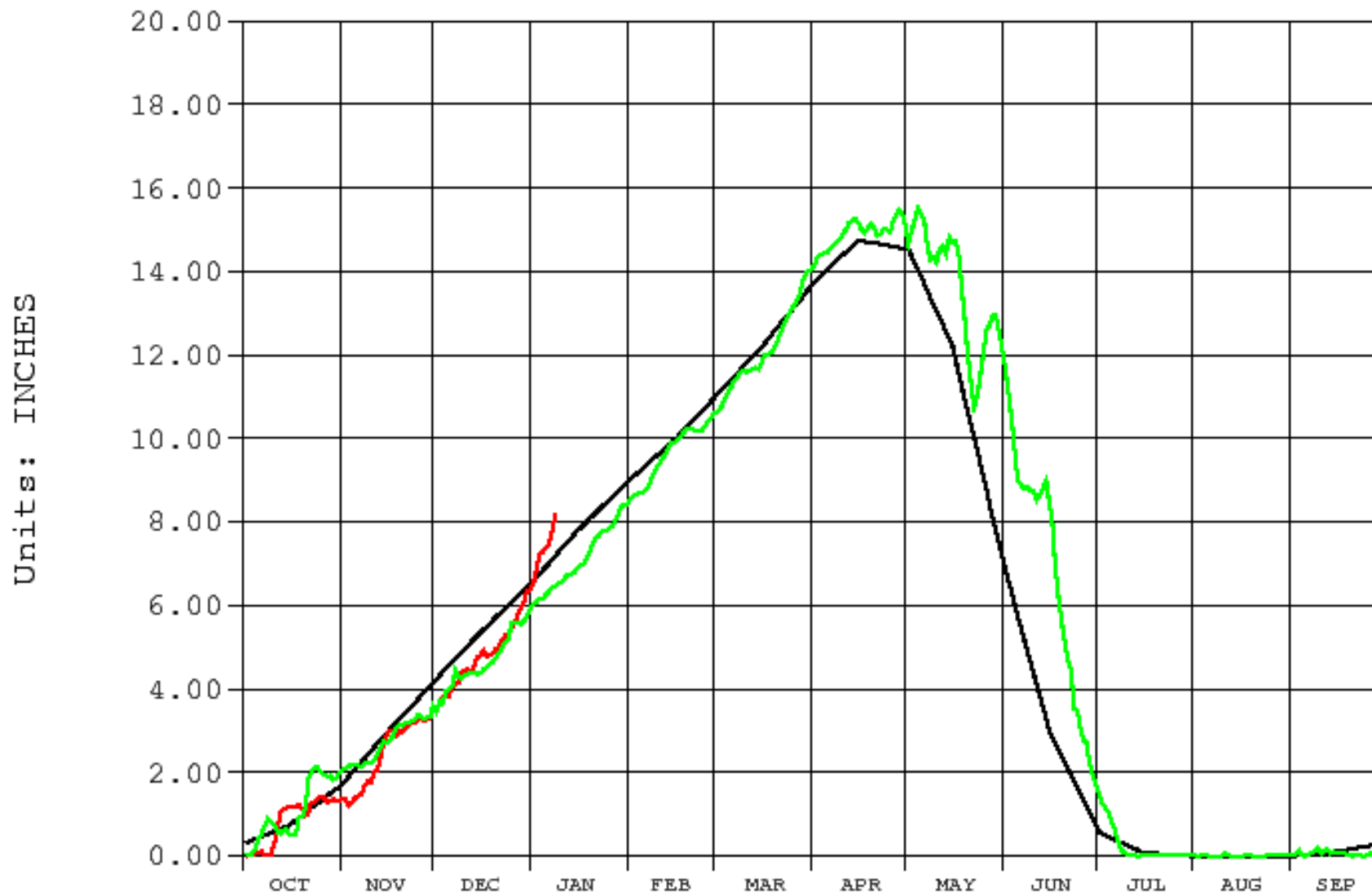
S N O W - P R E C I P I T A T I O N U P D A T E
 Based on Mountain Data from NRCS SNOTEL Sites
 As of THURSDAY: JANUARY 1 , 2009

BASIN Data Site Name	ELEV. (Ft)	SNOW WATER EQUIVALENT			TOTAL PRECIPITATION		
		Current	Average	Avg %	Current	Average	Avg %

UPPER YELLOWSTONE RIVER BASIN							
BEARTOOTH LAKE	9360	9.4	11.5	82	8.6	10.0	86

BOX CANYON	6670	4.7	4.5	104	6.8	6.2	110
BRACKETT CREEK	7320	8.1	8.9	91	15.1	11.5	131
BURNT MTN	5880	2.6	2.7	96	8.2	7.4	111
CANYON	7870	5.4	6.1	89	6.4	7.8	82
COLE CREEK	7850	7.1	7.5	95	7.8	8.1	96
EVENING STAR	9200	11.8	13.7	86	13.0	13.0	100
FISHER CREEK	9100	15.9	16.3	98	15.3	17.1	89
MONUMENT PEAK	8850	10.6	9.9	107	11.2	10.6	106
NORTHEAST ENTRANCE	7350	3.6	5.0	72	6.3	6.4	98
PARKER PEAK	9400	11.3	10.6	107	-M	8.2	*
PLACER BASIN	8830	10.1	8.7	116	11.5	9.6	120
PORCUPINE	6500	3.5	2.8	125	7.4	5.9	125
SACAJAWEA	6550	4.4	5.1	86	15.9	10.4	153
SHOWER FALLS	8100	11.3	10.1	112	13.1	11.5	114
S FORK SHIELDS	8100	9.0	7.5	120	12.2	9.5	128
SYLVAN LAKE	8420	8.0	10.5	76	10.3	11.0	94
SYLVAN ROAD	7120	5.2	6.2	84	7.8	10.1	77
THUMB DIVIDE	7980	7.7	7.6	101	10.0	9.1	110
TWO OCEAN PLATEAU	9240	15.4	13.5	114	12.2	13.5	90
WHITE MILL	8700	10.0	11.1	90	10.5	12.8	82
WOLVERINE	7650	4.6	5.8	79	5.5	7.0	79
YOUNTS PEAK	8350	8.7	7.9	110	8.2	8.2	100
Basin wide percent of average				97			103
WIND RIVER BASIN (WYOMING)							
BURROUGHS CREEK	8750	7.6	6.7	113	8.3	8.0	104
COLD SPRINGS	9630	3.7	4.6	80	5.4	5.7	95
DEER PARK	9700	6.3	6.7	94	8.9	10.9	82
HOBBS PARK	10100	6.1	7.6	80	6.3	6.4	98
KIRWIN	9550	6.4	5.9	108	7.0	5.9	119
LITTLE WARM	9370	5.2	5.3	98	6.8	6.7	101
OWL CREEK	8975	3.1	2.7	115	3.3	2.9	114
SOUTH PASS	9040	6.2	8.2	76	8.2	9.2	89
ST. LAWRENCE ALT	8620	1.8	3.8	47	4.4	4.6	96
TOGWOTEE PASS	9580	12.7	11.7	109	14.1	12.0	118
TOWNSEND CREEK	8700	3.7	4.4	84	5.7	6.0	95
YOUNTS PEAK	8350	8.7	7.9	110	8.2	8.2	100
Basin wide percent of average				95			100
SHOSHONE RIVER BASIN (WYOMING)							
BLACKWATER	9780	10.6	12.0	88	9.8	10.8	91
EVENING STAR	9200	11.8	13.7	86	13.0	13.0	100
MARQUETTE	8760	2.2	5.0	44	5.0	5.3	94
SYLVAN LAKE	8420	8.0	10.5	76	10.3	11.0	94
SYLVAN ROAD	7120	5.2	6.2	84	7.8	10.1	77
YOUNTS PEAK	8350	8.7	7.9	110	8.2	8.2	100
Basin wide percent of average				84			93
BIGHORN RIVER BASIN (WYOMING)							
BALD MTN.	9380	10.2	9.7	105	9.1	8.5	107
BEAR TRAP MEADOW	8200	3.8	2.6	146	5.1	4.5	113
BLACKWATER	9780	10.6	12.0	88	9.8	10.8	91
BONE SPRINGS DIV	9350	9.6	7.8	123	7.9	7.3	108
EVENING STAR	9200	11.8	13.7	86	13.0	13.0	100
GRAVE SPRINGS	8550	3.1	4.0	78	4.6	4.9	94
KIRWIN	9550	6.4	5.9	108	7.0	5.9	119
MARQUETTE	8760	2.2	5.0	44	5.0	5.3	94
MIDDLE POWDER	7760	4.1	5.5	75	4.9	6.8	72
OWL CREEK	8975	3.1	2.7	115	3.3	2.9	114
POWDER RIVER PASS	9480	6.2	5.3	117	7.2	6.0	120
SHELL CREEK	9580	8.8	7.3	121	8.6	6.7	128
SYLVAN LAKE	8420	8.0	10.5	76	10.3	11.0	94
SYLVAN ROAD	7120	5.2	6.2	84	7.8	10.1	77
TIMBER CREEK	7950	2.5	3.0	83	4.8	3.7	130
YOUNTS PEAK	8350	8.7	7.9	110	8.2	8.2	100
Basin wide percent of average				96			101

Archive Data From 1-OCT Through 30-SEP
Plotted 01/08/2009 07:35



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

SE_AVG Snow Water Equivalent Average (inches)

SE Snow Water Equivalent (inches)

2009

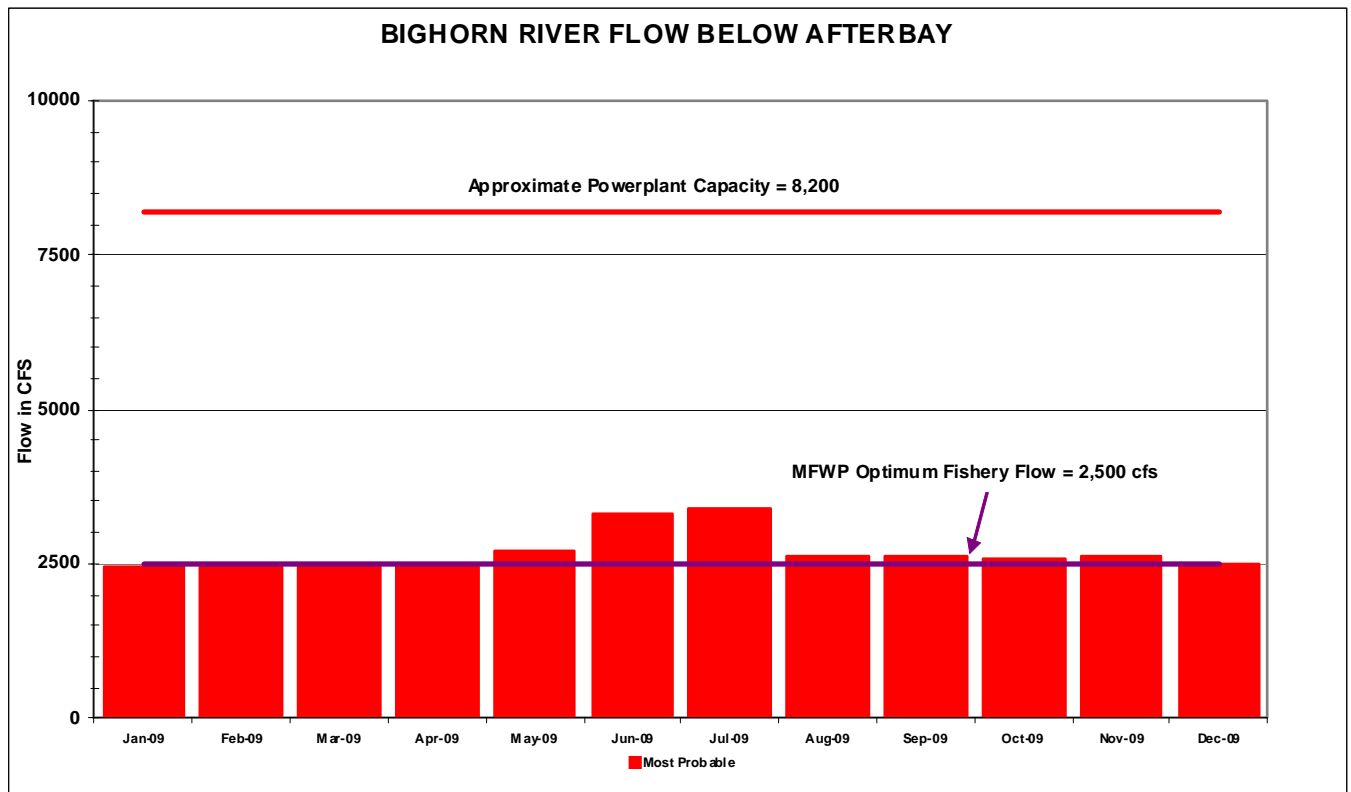
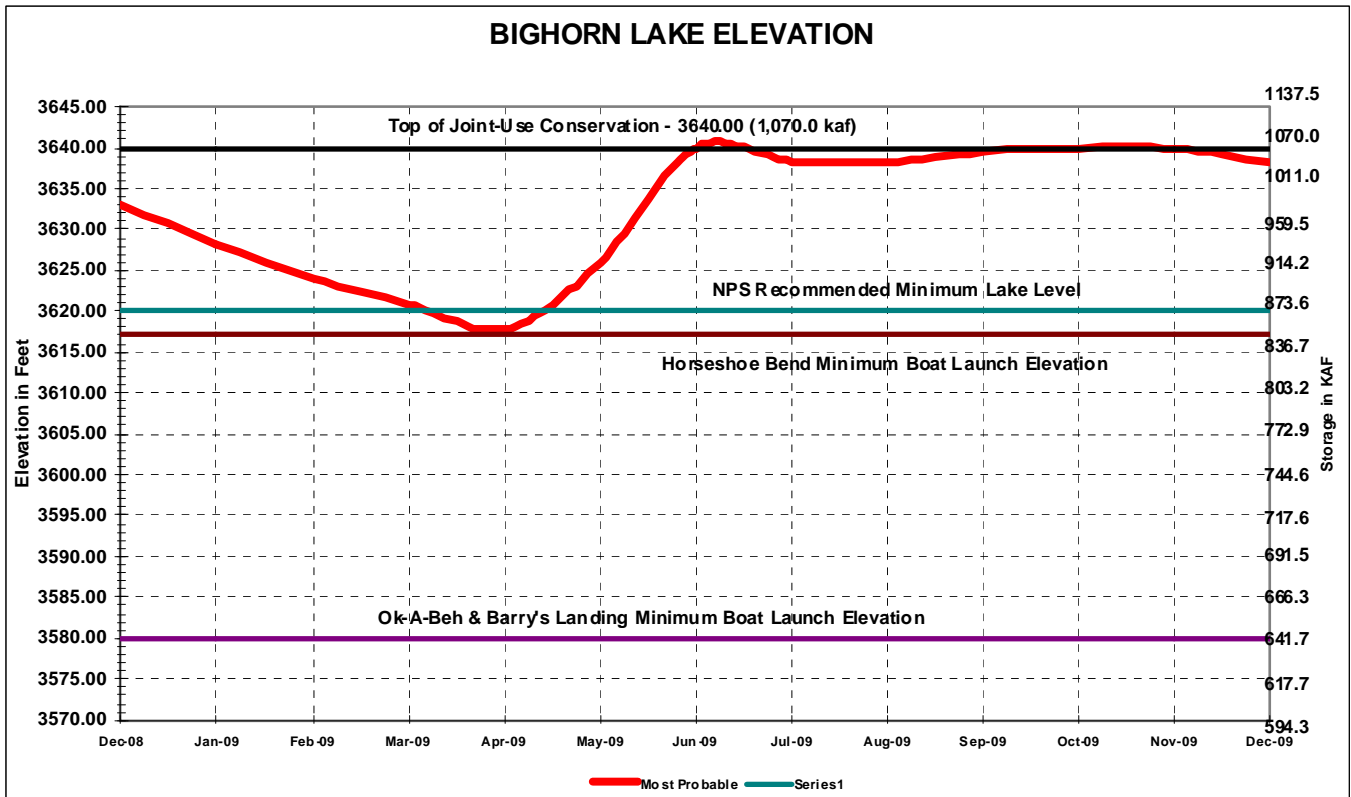
2009 2008

BHXAOP V1.12 Run: 07-Jan-2009 16:05
 Based on Most Probable Inflow Forecast

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont 991.2 kaf Elev 3633.15 ft				Maximum Cont 1328.4 kaf Elev 3657.00 ft				Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2009	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Boysen Release	kaf	43.1	38.9	43.0	44.6	103.2	130.9	102.5	86.3	59.5	61.5	59.5	61.4	834.4
Boysen Release	cfs	701	700	699	750	1678	2200	1667	1404	1000	1000	1000	999	
Buffalo Bill Riv Flo	kaf	21.5	19.4	21.5	24.4	64.9	102.4	105.9	85.2	78.9	26.2	25.4	21.5	597.2
Buffalo Bill Riv Flo	cfs	350	349	350	410	1055	1721	1722	1386	1326	426	427	350	
Station Gain	kaf	33.0	36.5	56.8	50.0	83.0	135.0	2.0	9.4	46.4	78.3	64.1	46.2	640.7
Monthly Inflow	kaf	97.6	94.8	121.3	119.0	251.1	368.3	210.4	180.9	184.8	166.0	149.0	129.1	2072.3
Monthly Inflow	cfs	1587	1707	1973	2000	4084	6189	3422	2942	3106	2700	2504	2100	
Turbine Release	kaf	146.3	132.2	146.3	142.2	186.5	219.8	230.8	182.4	169.3	159.6	150.5	149.4	2015.3
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	146.3	132.2	146.3	142.2	186.5	219.8	230.8	182.4	169.3	159.6	150.5	149.4	2015.3
Total Release	cfs	2379	2380	2379	2390	3033	3694	3754	2966	2845	2596	2529	2430	
Spring Flow	kaf	4.3	3.9	4.3	4.2	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3	50.8
Irrigation Reqmnt	kaf	0.0	0.0	0.0	0.6	24.6	26.8	27.7	26.8	18.8	4.1	0.0	0.0	129.4
Afterbay Rels	kaf	150.6	136.1	150.6	146.4	190.8	224.0	235.1	186.7	173.5	163.9	154.7	153.7	2066.1
Afterbay Rels	cfs	2449	2451	2449	2460	3103	3764	3824	3036	2916	2666	2600	2500	
River Release	kaf	150.6	136.1	150.6	145.8	166.2	197.2	207.4	159.9	154.7	159.8	154.7	153.7	1936.7
River Release	cfs	2449	2451	2449	2450	2703	3314	3373	2601	2600	2599	2600	2500	
Min Release	kaf	150.6	136.1	150.6	145.8	150.6	148.8	153.7	153.7	148.8	153.7	154.7	153.7	1800.8
End-Month Targets	kaf				873.6		1070.0							
End-Month Content	kaf	942.5	905.1	880.1	856.9	921.5	1070.0	1049.6	1048.1	1063.6	1070.0	1068.5	1048.2	
End-Month Elevation	ft	3628.19	3623.93	3620.84	3617.79	3625.85	3640.00	3638.34	3638.22	3639.48	3640.00	3639.88	3638.22	
Net Change Content	kaf	-48.7	-37.4	-25.0	-23.2	64.6	148.5	-20.4	-1.5	15.5	6.4	-1.5	-20.3	57.0
Yellowtail Power	2009	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Turbine Release	kaf	146.3	132.2	146.3	142.2	186.5	219.8	230.8	182.4	169.3	159.6	150.5	149.4	2015.3
Generation	gwh	58.115	51.772	56.682	54.624	72.170	88.120	94.351	74.324	69.129	65.379	61.696	61.049	807.411
End-Month Power Cap	mw	275.9	271.9	269.0	266.2	273.7	287.5	285.8	285.7	287.0	287.5	287.4	285.7	
% Max Gen		27	27	26	26	34	42	44	35	33	31	30	28	
Ave kwh/af		397	392	387	384	387	401	409	407	408	410	410	409	401
Upstream Generation	gwh	9.440	7.602	8.882	11.258	28.397	33.844	32.623	31.164	27.789	13.766	12.210	11.205	228.180
Total Generation	gwh	67.555	59.374	65.564	65.882	100.567	121.964	126.974	105.488	96.918	79.145	73.906	72.254	1035.591

BIGHORN LAKE



WATER YEAR 2009