



IN REPLY REFER TO:

## United States Department of the Interior

BUREAU OF RECLAMATION

Great Plains Region

Montana Area Office

P.O. Box 30137

Billings, Montana 59107-0137

June 8, 2007



Dear Interested Party:

Although still below average, inflows to Yellowtail Reservoir (Bighorn Lake) during the month of May were a vast improvement over those received in March and April. In addition, early June precipitation has provided some hope for increased optimism with respect to inflows for the remainder of June. Inflows to Bighorn Lake during the month of May were approximately 80 percent of average, and the May end-of-month reservoir elevation was about 2 feet higher than what we had projected in our May operations plan. Unfortunately, the June through July inflows are forecast to be around 47 percent of average. Based on these conditions, and in an effort to conserve storage, we plan to maintain releases from Yellowtail Dam to the Bighorn River at 1,500 cubic feet per second (cfs) through the remainder of June. This release schedule should enable us to very nearly fill and maintain adequate storage through the summer to afford some much-needed operational flexibility this coming fall and winter. Additionally, should our most probable inflow projections be realized, we may be in a position to increase river releases in July and August. As always, we will continue to closely monitor water supply conditions at Yellowtail Reservoir (Bighorn Lake) and take these conditions into account in our operations.

Updates to the Yellowtail operations plan can be accessed through our Web site at [www.usbr.gov/gp/mtao](http://www.usbr.gov/gp/mtao).

Reclamation remains committed to continue exploring opportunities for enhancing benefits for all Yellowtail beneficiaries through collaborative efforts with interested parties and stakeholders from both Montana and Wyoming. Please feel free to provide us with additional information as this operational season progresses.

Sincerely,

Dan Jewell  
Area Manager

# RECLAMATION

*Managing Water in the West*

June 1, 2007

Dear Customer:

Attached is the monthly water supply outlook and projected reservoir and river operating plans as prepared on June 8, 2007. Mountain snowpack and streamflow into Bighorn Lake continues to remain below normal. 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  
 June 1, 2007

**Present Elevations & Storages:**

<u>Reservoir</u>	<u>Elevation</u>	<u>Storage</u>	<u>Percent of Normal</u>
Boysen	4709.29	482,958	---
Buffalo Bill	5382.79	562,453	---
Bighorn Lake	3626.58	927,915	106

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

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
<b>April-July, 2006</b>	<b>528.2</b>	<b>44</b>
<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	67.4	48
February	77.8	54
March	100.2	56
April	100.6	58
May	206.7	80

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

<u>Month</u>	<u>Gains</u>	<u>Percent of Normal</u>
<b>April-July, 2006</b>	<b>-2.5</b>	<b>---</b>
<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	24.0	51
February	38.7	67
March	56.7	72
April	55.0	116
May	82.2	95

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

<u>Agency</u>	<u>Inflows</u>	<u>Percent of Normal</u>
<b>USBR</b>	<b>358.9</b>	<b>47</b>

**Snowpack Conditions:**

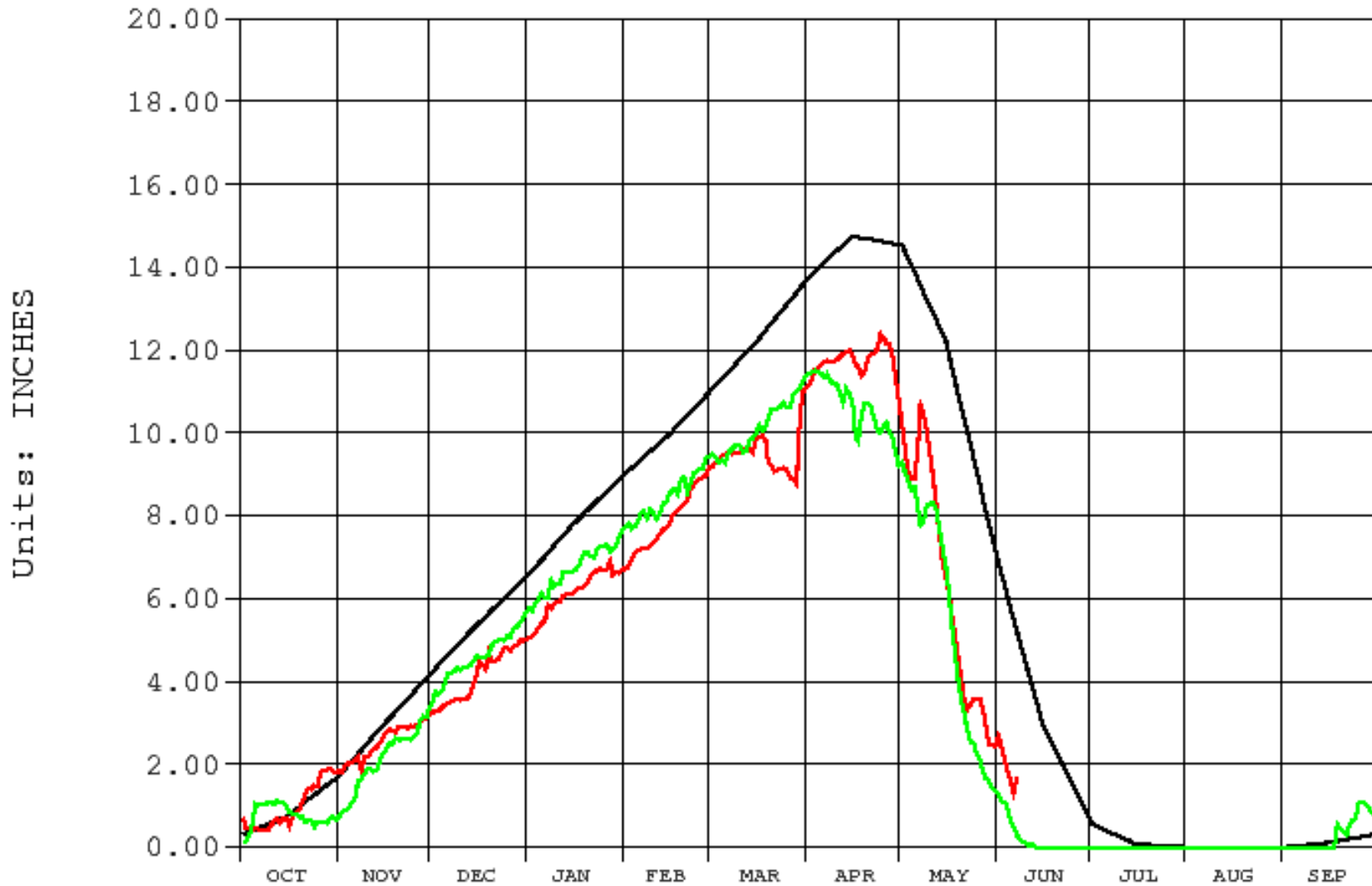
S N O W - P R E C I P I T A T I O N U P D A T E  
 Based on Mountain Data from NRCS SNOTEL Sites  
 As of FRIDAY: JUNE 1 , 2007

<u>BASIN</u> Data Site Name	<u>ELEV.</u> (Ft)	<u>SNOW WATER EQUIVALENT</u>			<u>TOTAL PRECIPITATION</u>		
		Current	Average	% Avg	Current	Average	% Avg
UPPER YELLOWSTONE RIVER BASIN							
BEARTOOTH LAKE	9275	11.4	20.1	57	23.5	27.0	87
BOX CANYON	6700	.0	.0	100*	16.7	18.2	92
BRACKETT CREEK	7320	.0	5.1	0	28.1	36.8	76
BURNT MTN	5880	.0	-M	*	17.9	-M	*
CANYON	8090	.0	1.3	0*	19.1	20.5	93
COLE CREEK	7850	.0	11.0	0	17.5	27.4	64
EVENING STAR	9200	2.7	26.7	10	32.3	34.4	94

FISHER CREEK	9100	20.5	30.1	68	35.9	46.7	77
MONUMENT PEAK	8850	.0	15.9	0	23.9	29.0	82
NORTHEAST ENTRANCE	7350	.0	.4	0*	16.0	17.6	91
PARKER PEAK	9400	.0	18.5	0	22.7	23.2	98
PLACER BASIN	8830	.0	14.6	0	25.8	29.0	89
PORCUPINE	6500	.0	.0	100*	20.9	18.8	111
SACAJAWEA	6550	.0	.0	100*	29.0	-M	*
SHOWER FALLS	8100	15.2	20.5	74	34.1	36.8	93
S FORK SHIELDS	8100	3.2	12.3	26	31.6	31.2	101
SYLVAN LAKE	8420	.0	11.4	0	26.2	29.0	90
SYLVAN ROAD	7120	.0	.0	100*	18.6	23.3	80
THUMB DIVIDE	7980	.0	1.9	0*	18.5	24.8	75
TWO OCEAN PLATEAU	9240	6.4	25.2	25	26.5	36.3	73
WHITE MILL	8700	9.2	18.0	51	24.6	35.2	70
WOLVERINE	7650	.0	.0	100*	13.4	18.3	73
YOUNTS PEAK	8350	.0	7.0	0	16.5	22.1	75
Basin wide percent of average				29			84
WIND RIVER BASIN (WYOMING)							
BURROUGHS CREEK	8750	.0	3.4	0	15.9	22.6	70
COLD SPRINGS	9630	.0	1.1	0	13.3	17.1	78
DEER PARK	9700	.0	8.0	0	21.7	30.9	70
HOBBS PARK	10100	1.0	10.1	10	20.0	21.0	95
KIRWIN	9550	.0	5.5	0	17.3	17.5	99
LITTLE WARM	9370	.0	1.9	0	14.9	20.0	74
OWL CREEK	8975	.0	.5	0*	10.0	11.1	90
SOUTH PASS	9040	.0	6.3	0	18.6	26.0	72
ST. LAWRENCE ALT	8620	.0	.7	0*	13.5	15.2	89
TOGWOTEE PASS	9580	5.6	21.9	26	24.2	32.7	74
TOWNSEND CREEK	8700	.0	1.7	0	16.2	18.8	86
YOUNTS PEAK	8350	.0	7.0	0	16.5	22.1	75
Basin wide percent of average				10			79
SHOSHONE RIVER BASIN (WYOMING)							
BLACKWATER	9780	10.1	24.7	41	24.7	28.9	85
EVENING STAR	9200	2.7	26.7	10	32.3	34.4	94
MARQUETTE	8760	.0	4.2	0	16.4	18.0	91
SYLVAN LAKE	8420	.0	11.4	0	26.2	29.0	90
SYLVAN ROAD	7120	.0	.0	100*	18.6	23.3	80
YOUNTS PEAK	8350	.0	7.0	0	16.5	22.1	75
Basin wide percent of average				17			87
BIGHORN RIVER BASIN (WYOMING)							
BALD MTN.	9380	15.2	16.7	91	23.4	25.3	92
BEAR TRAP MEADOW	8200	.0	.0	100*	14.0	14.2	99
BLACKWATER	9780	10.1	24.7	41	24.7	28.9	85
BONE SPRINGS DIV	9350	12.4	8.2	151	26.7	22.3	120
EVENING STAR	9200	2.7	26.7	10	32.3	34.4	94
GRAVE SPRINGS	8550	.0	1.8	0	13.0	16.1	81
KIRWIN	9550	.0	5.5	0	17.3	17.5	99
MARQUETTE	8760	.0	4.2	0	16.4	18.0	91
MIDDLE POWDER	7760	.0	2.6	0	14.6	19.1	76
OWL CREEK	8975	.0	.5	0*	10.0	11.1	90
POWDER RIVER PASS	9480	.9	2.3	39	17.5	19.6	89
SHELL CREEK	9580	5.9	10.4	57	19.5	20.5	95
SYLVAN LAKE	8420	.0	11.4	0	26.2	29.0	90
SYLVAN ROAD	7120	.0	.0	100*	18.6	23.3	80
TIMBER CREEK	7950	.0	.5	0*	12.8	14.4	89
YOUNTS PEAK	8350	.0	7.0	0	16.5	22.1	75
Basin wide percent of average				39			90

Archive Data From 1-OCT Through 30-SEP

Plotted 06/07/2007 14:57



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

SE\_AVG Snow Water Equivalent Average (inches)

2007

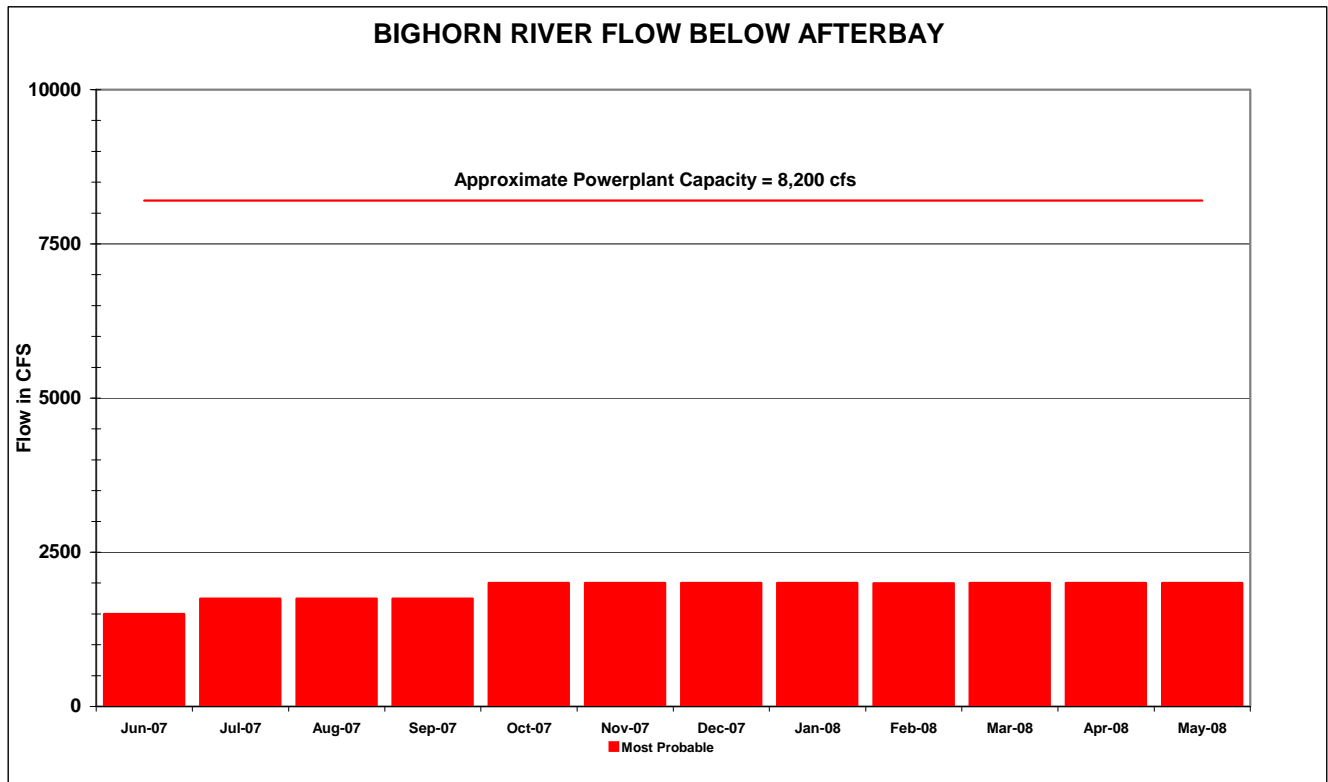
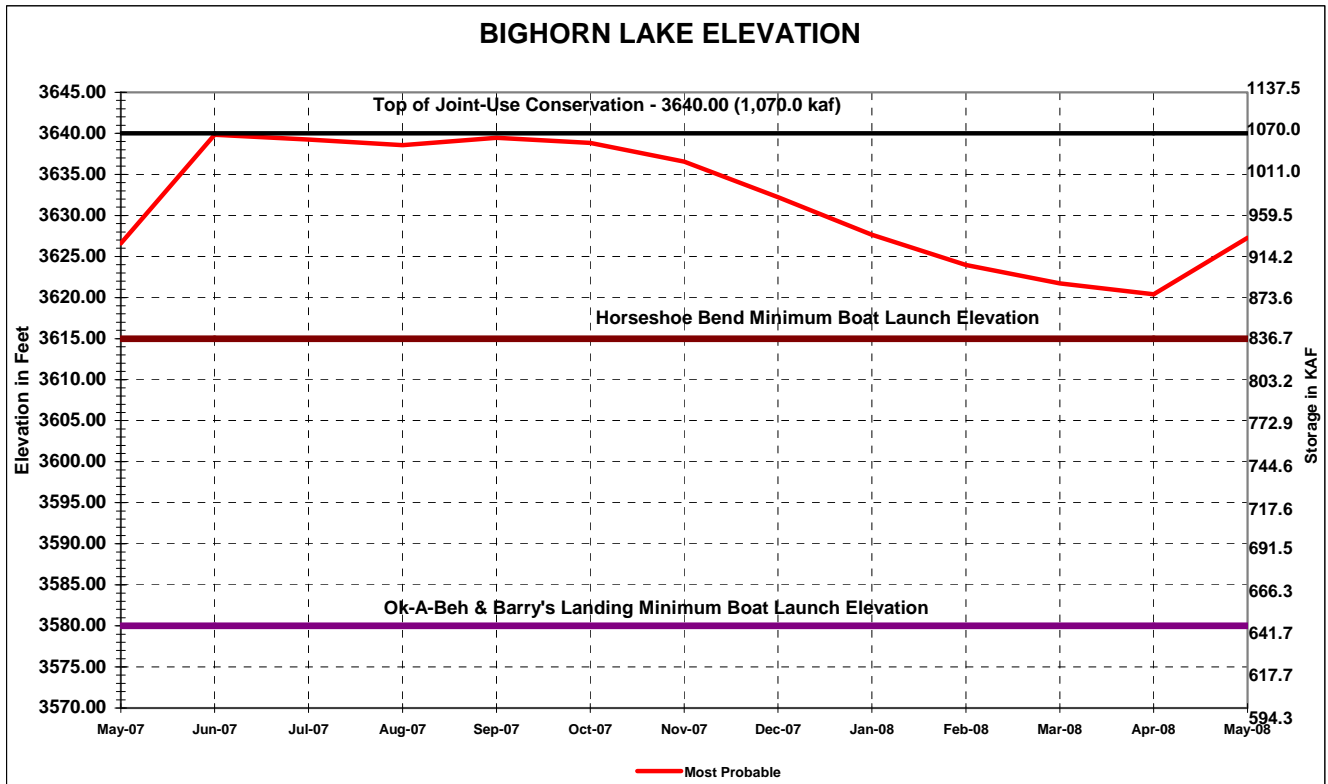
SE Snow Water Equivalent (inches)

2007 2006

BIGHORN LAKE MONTHLY OPERATIONS

Bighorn Reservoir		Initial Cont 927.9 kaf Elev 3626.58 ft				Maximum Cont 1328.4 kaf Elev 3657.00 ft				Minimum Cont 493.6 kaf Elev 3547.00 ft				Total
	2007	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Total
Boysen Release	kaf	69.6	73.2	66.4	45.5	30.7	23.8	24.6	24.6	23.0	24.6	44.6	67.7	518.3
Boysen Release	cfs	1170	1190	1080	765	499	400	400	400	400	400	750	1101	
Buffalo Bill Riv Flo	kaf	62.7	70.4	63.0	50.0	18.4	8.9	9.2	9.2	8.6	9.2	24.4	64.9	398.9
Buffalo Bill Riv Flo	cfs	1054	1145	1025	840	299	150	150	150	150	150	410	1055	
Station Gain	kaf	103.0	-20.0	-7.5	34.0	66.1	54.9	38.1	40.6	47.4	66.6	36.0	54.5	513.7
Monthly Inflow	kaf	235.3	123.6	121.9	129.5	115.2	87.6	71.9	74.4	79.0	100.4	105.0	187.1	1430.9
Monthly Inflow	cfs	3954	2010	1983	2176	1874	1472	1169	1210	1373	1633	1765	3043	
Turbine Release	kaf	95.1	131.0	130.1	118.7	122.8	114.8	118.7	118.7	111.0	118.7	115.4	129.8	1424.8
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	95.1	131.0	130.1	118.7	122.8	114.8	118.7	118.7	111.0	118.7	115.4	129.8	1424.8
Total Release	cfs	1598	2131	2116	1995	1997	1929	1930	1930	1930	1930	1939	2111	
Spring Flow	kaf	4.2	4.3	4.3	4.2	4.3	4.2	4.3	4.3	4.0	4.3	4.2	4.3	50.9
Irrigation Reqmnt	kaf	10.0	27.7	26.8	18.8	4.1	0.0	0.0	0.0	0.0	0.0	0.6	11.1	99.1
Afterbay Rels	kaf	99.3	135.3	134.4	122.9	127.1	119.0	123.0	123.0	115.0	123.0	119.6	134.1	1475.7
Afterbay Rels	cfs	1669	2200	2186	2065	2067	2000	2000	2000	1999	2000	2010	2181	
River Release	kaf	89.3	107.6	107.6	104.1	123.0	119.0	123.0	123.0	115.0	123.0	119.0	123.0	1376.6
River Release	cfs	1501	1750	1750	1749	2000	2000	2000	2000	1999	2000	2000	2000	
Min Release	kaf	89.3	107.6	107.6	104.1	123.0	119.0	123.0	123.0	115.0	123.0	119.0	123.0	1376.6
End-Month Targets	kaf		1070.0											
End-Month Content	kaf	1068.1	1060.7	1052.5	1063.3	1055.7	1028.5	981.7	937.4	905.4	887.1	876.7	934.0	
End-Month Elevation	ft	3639.84	3639.25	3638.58	3639.46	3638.84	3636.55	3632.23	3627.63	3623.96	3621.72	3620.40	3627.26	
Net Change Content	kaf	140.2	-7.4	-8.2	10.8	-7.6	-27.2	-46.8	-44.3	-32.0	-18.3	-10.4	57.3	6.1
Yellowtail Power	2007	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Total
Turbine Release	kaf	95.1	131.0	130.1	118.7	122.8	114.8	118.7	118.7	111.0	118.7	115.4	129.8	1424.8
Generation	gwh	38.153	53.625	53.135	48.497	50.196	46.684	47.727	47.040	43.434	46.047	44.542	50.512	569.592
End-Month Power Cap	mw	287.4	286.8	286.1	287.0	286.3	284.0	279.8	275.4	271.9	269.8	268.6	275.0	
% Max Gen		18	25	25	23	23	23	22	22	22	21	21	24	
Ave kwh/af		401	409	408	409	409	407	402	396	391	388	386	389	400
Upstream Generation	gwh	25.358	26.982	24.262	19.121	8.000	3.652	3.837	3.877	3.660	3.960	11.120	25.160	158.989
Total Generation	gwh	63.511	80.607	77.397	67.618	58.196	50.336	51.564	50.917	47.094	50.007	55.662	75.672	728.581

# BIGHORN LAKE



WATER YEAR 2007