

April 1, 2008
WATER SUPPLY AND UTILIZATION REPORT
BIGHORN RIVER BASIN
WYOMING AREA OFFICE

This report concerns the operation of Reclamation facilities in the Shoshone and Wind/Bighorn River Basins.

Reclamation defines a water year as the time period of October 1 through September 30. Water year is abbreviated in this report as W. Yr.

Other organizations furnished information for the Water Supply and Utilization Report. Their cooperation is greatly appreciated.

This report is available on the Internet and can be accessed by following these steps:

- 1. Log on to the Great Plains Home Page at <http://www.usbr.gov/gp>**
- 2. Select Water Operations.**
- 3. Select Water Management Information.**
- 4. Select Water Supply Report.**
- 5. Under Bighorn Basin, select Current Month or reports from the previous 12 months**

BIGHORN RIVER BASIN INFLOW

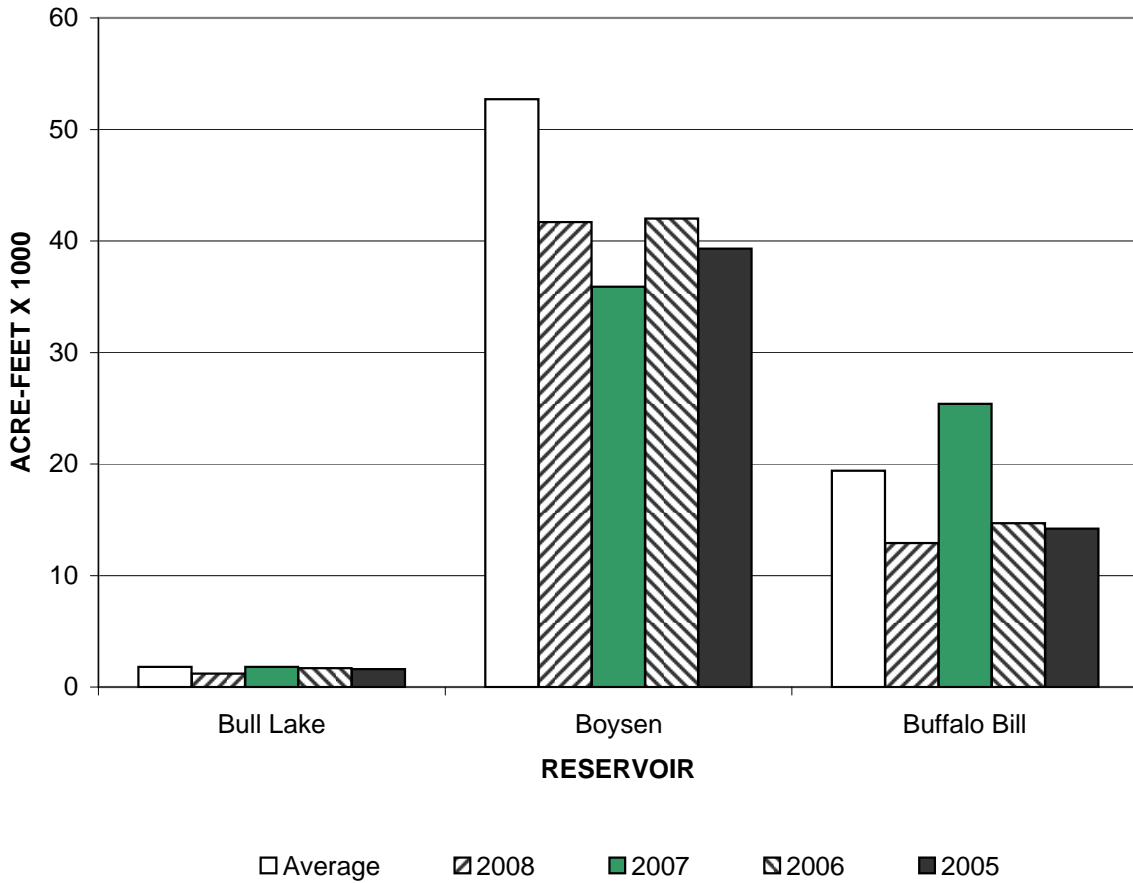
March inflow to Bull Lake, Boysen, and Buffalo Bill Reservoirs was below average.

(1000 acre-feet)

Reservoir	March Inflow			March Historical Inflow			Accumulated Inflow (October-March)		
	W. Yr. 2008	30 Yr. Avg. ¹	% of Avg.	W. Yr. 2007	W. Yr. 2006	W. Yr. 2005	W. Yr. 2008	30 Yr. Avg.	% of Avg.
Bull Lake	1.2	1.8	67	1.8	1.7	1.6	19.4	16.4	118
Boysen	41.7	52.7	79	35.9	42.0	39.3	204.1	274.4	74
Buffalo Bill	12.9	19.4	66	25.4	14.7	14.2	117.6	108.1	109

¹ Average is based on the 1978-2007 period.

**BIGHORN RIVER BASIN
RESERVOIR INFLOW
March**



BIGHORN RIVER BASIN OUTFLOW

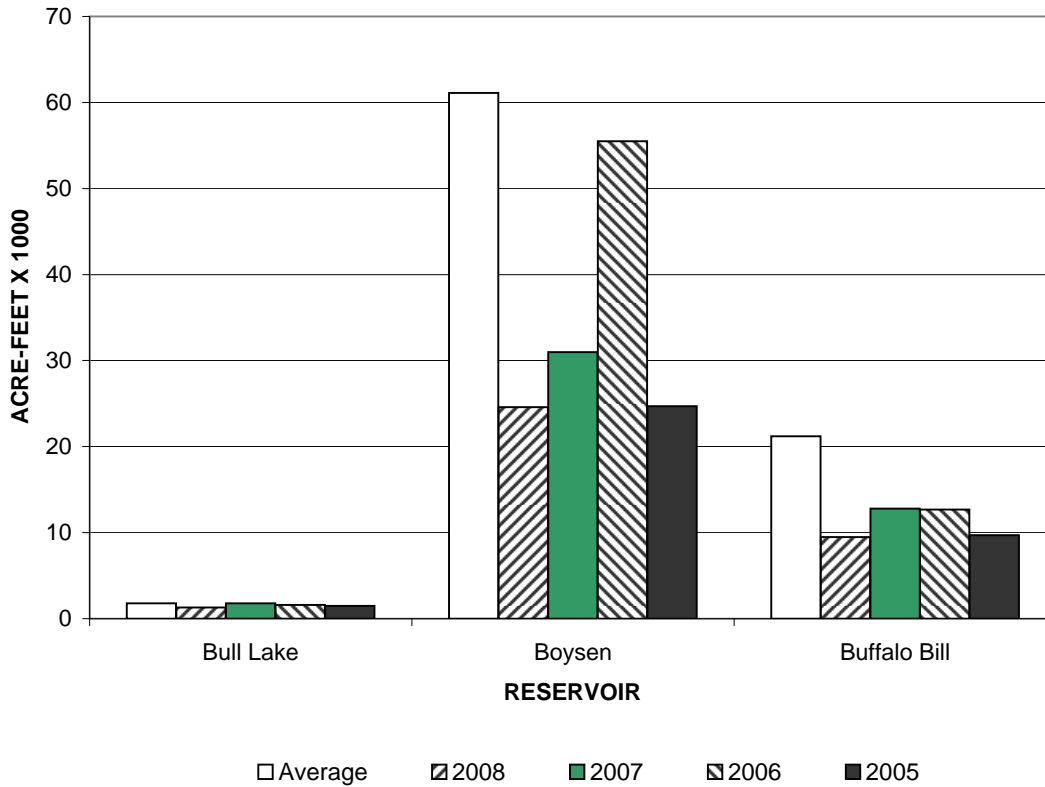
Releases from Bull Lake, Boysen, and Buffalo Bill Reservoirs were below average during March.

(1000 acre-feet)

Reservoir	March Outflow			March Historical Outflow			Accumulated Outflow (October-March)		
	W. Yr. 2008	30 Yr. Avg. ¹	% of Avg.	W. Yr. 2007	W. Yr. 2006	W. Yr. 2005	W. Yr. 2008	30 Yr. Avg.	% of Avg.
Bull Lake	1.3	1.8	72	1.8	1.6	1.5	9.4	16.3	58
Boysen	24.6	61.1	40	31.0	55.5	24.7	146.0	338.0	43
Buffalo Bill	9.5	21.2	45	12.8	12.7	9.7	79.7	124.8	64

¹ Average is based on the 1978-2007 period.

**BIGHORN RIVER BASIN
RESERVOIR OUTFLOW
March**



BIGHORN RIVER BASIN STORAGE

Storage at the end of March was below average at all reservoirs except Buffalo Bill Reservoir.

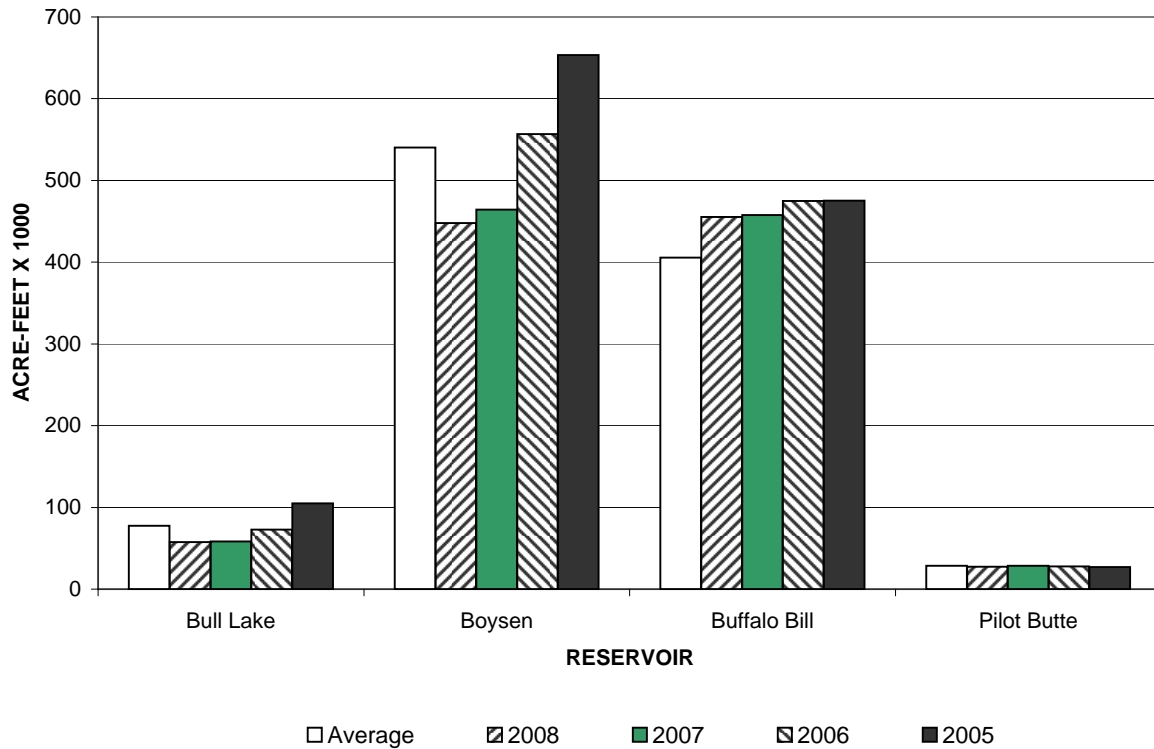
(1000 acre-feet)

Reservoir	Total Storage End of March			End of March Historical Storage			Total Conservation Storage Capacity	Percent of Capacity
	W. Yr. 2008	30 Yr. Avg. ¹	% of Avg.	W. Yr. 2007	W. Yr. 2006	W. Yr. 2005		
Bull Lake	57.6	77.4	74	58.5	73.0	104.8	152.5	38
Boysen	447.7	540.1	83	464.3	556.8	653.5	741.6	60
Buffalo Bill	455.2	405.4 ²	112	457.7	475.0	475.1	646.6	70
Pilot Butte	27.3	28.6	95	28.6	27.9	26.9	33.7	81

¹ Average is based on the 1978-2007 period.

² This does not reflect a long term average because in 1992 the capacity of the reservoir was increased to approximately 646,565 acre-feet as a result of raising the dam. The average used here reflects data from 1993 through 2007.

BIGHORN RIVER BASIN RESERVOIR STORAGE End of March



BIGHORN SNOWPACK WATER CONTENT

The tables shown below display the Snotel stations used in the development of the April - July snowmelt runoff forecasts displayed on page six of this report.

SWE in inches ¹

WATERSHED	April 1 snow-water content			Comparative April 1 snow-water content		
	W. Yr. 2008	30 Yr. Avg. ²	% of Avg.	W. Yr. 2007	W. Yr. 2006	W. Yr. 2005
Bull Lake Reservoir	11.97	13.57	88	9.9	11.5	11.5
Boysen Reservoir	15.47	14.96	103	10.9	12.8	10.7
Buffalo Bill Reservoir	20.90	20.30	103	12.8	16.8	12.7

Boysen Reservoir Watershed

SWE in inches ¹

Snotel Stations (Elevation)	Water Content	30 Yr. Avg. ²
Burroughs Creek (8,750)	16.5	14.8
Hobbs Park (10,100)	14.3	15.1
Kirwin (9,800)	12.5	11.5
Little Warm (9,620)	10.4	12.0
Togwotee Pass (9,580)	28.1	25.2
Townsend Creek (8,700)	8.8	8.8
Younts Peak (8,350)	17.7	17.3
Watershed Average	15.47	14.96

Buffalo Bill Reservoir Watershed

SWE in inches ¹

Snotel Stations (Elevation)	Water Content	30 Yr. Avg. ²
Blackwater (9,780)	26.5	24.8
Evening Star (9,200)	31.0	30.1
Marquette (8,760)	7.2	9.0
Sylvan Lake (8,420)	22.2	22.8
Sylvan Road (8,120)	13.6	12.9
Togwotee Pass (9,580)	28.1	25.2
Younts Peak (8,350)	17.7	17.3
Watershed Average	20.90	20.30

Bull Lake Reservoir Watershed

SWE in inches ¹

Snotel Stations (Elevation)	Water Content	30 Yr. Avg. ²
Elkhart Park (8,400)	11.2	13.6
Hobbs Park (10,100)	14.3	15.1
Little Warm (9,620)	10.4	12.0
Watershed Average	11.97	13.57

¹ SWE (Snow Water Content) is the amount of water in the snowpack expressed in inches)

² Average is based on the 1971-2000 period

BIGHORN WATER SUPPLY FORECAST

The April 1, 2008, water supply forecast indicates below average April - July runoff can be expected at all forecast points except Buffalo Bill Reservoir.

(1000 acre-feet)

Forecast Points	April 1, 2008 Forecast of April-July Runoff			30 Yr. April-July Runoff Avg. ²	Expected % of Avg.	Comparative Actual April - July Runoff			
	Reasonable Minimum ¹	Expected	Reasonable Maximum ¹			W. Yr. 2007	W. Yr. 2006	W. Yr. 2005	W. Yr. 2004
	Bull Lake Reservoir	110	130			160	139.7	93	103
Wind River above Bull Lake Creek	270	370	470	401.3	92	194	282	387	294
Boysen Reservoir	300	500	750	552.2	91	211	201	589	321
Buffalo Bill Reservoir	580	680	780	644.0	106	427	546	513	387

¹ The probability is estimated to be 9 chances in 10 that the actual volume will fall between the reasonable minimum and reasonable maximum.

² Average is based on the 1978-2007 period.

(1000 acre-feet)

Forecast Points	April 1, 2008 Forecast of April-July Runoff						30 Yr. April-July Runoff Avg. ¹
	Chance of Exceeding						
	95%	75%	50% % of Avg	25%	5%		
Bull Lake Reservoir	110	122	130	93	142	160	139.7
Wind River above Bull Lake Creek	270	329	370	92	411	470	401.3
Boysen Reservoir	300	418	500	91	602	750	552.2
Buffalo Bill Reservoir	580	639	680	106	721	780	644.0

¹ Average is based on the 1978-2007 period.

BIGHORN RIVER BASIN GENERATION

Boysen and Shoshone Powerplants were the only Powerplants that generated electricity during March. Generation at Shoshone Powerplant was above average.

(Energy in giga-watt hours)

Powerplant	March Gross Generation			March Historical Generation			Accumulated Gross Gen. (October-March)		
	W. Yr. 2008	Avg.	% of Avg.	W. Yr. 2007	W. Yr. 2006	W. Yr. 2005	W. Yr. 2008	Avg.	% of Avg.
Boysen ¹	1.5	4.6	33	2.2	4.5	1.4	8.7	27.2	32
Pilot Butte ²	0.0	0.0	0	0.0	0.0	0.0	0.7	0.2	350
Heart Mtn. ³	0.0	0.0	0	0.0	0.0	0.0	0.9	0.8	113
Buffalo Bill ³	0.0	3.1	0	0.8	0.5	0.0	1.1	12.4	9
Shoshone ³	1.6	1.3	123	1.3	0.9	1.6	8.6	8.6	100
Spirit Mtn. ⁴	0.0	0.0	0	0.0	0.0	0.0	1.0	0.9	111

¹ Average is based on the 1978-2007 period.

² Average is based on the 1990-2007 period.

³ Average is based on the 1993-2007 period.

⁴ Average is based on the 1995-2007 period.

BIGHORN RIVER BASIN GROSS GENERATION March

