

April 1, 2009
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

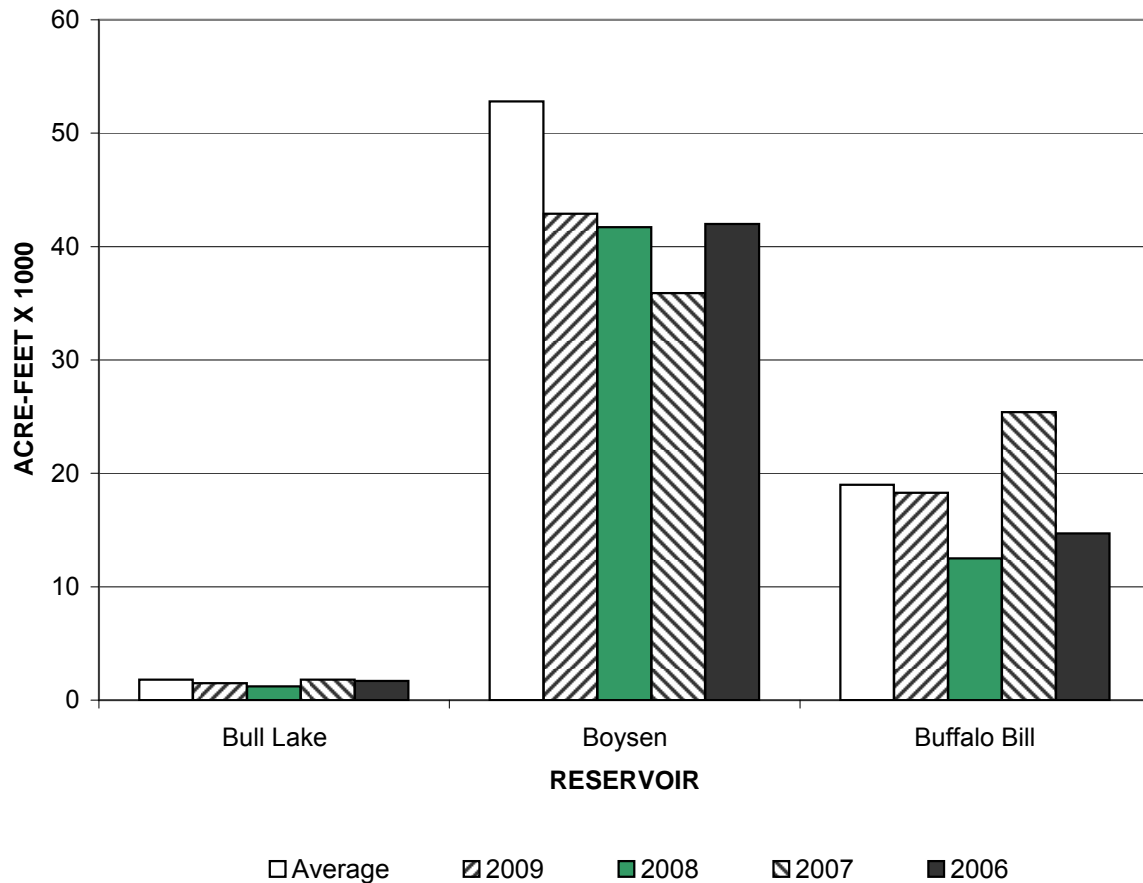
March inflow was below average at Bull Lake, Boysen, and Buffalo Bill Reservoirs.

(1000 acre-feet)

Reservoir	March Inflow			March Historical Inflow			Accumulated Inflow (October - March)		
	W. Yr. 2009	30 Yr. Avg. ¹	% of Avg.	W. Yr. 2008	W. Yr. 2007	W. Yr. 2006	W. Yr. 2009	30 Yr. Avg.	% of Avg.
Bull Lake	1.5	1.8	83	1.2	1.8	1.7	13.6	16.6	82
Boysen	42.9	52.8	81	41.7	35.9	42.0	222.9	273.5	81
Buffalo Bill	18.3	19.0	96	12.5	25.4	14.7	107.4	108.8	99

¹ Average is based on the 1979-2008 period.

BIGHORN RIVER BASIN RESERVOIR INFLOW March



BIGHORN RIVER BASIN OUTFLOW

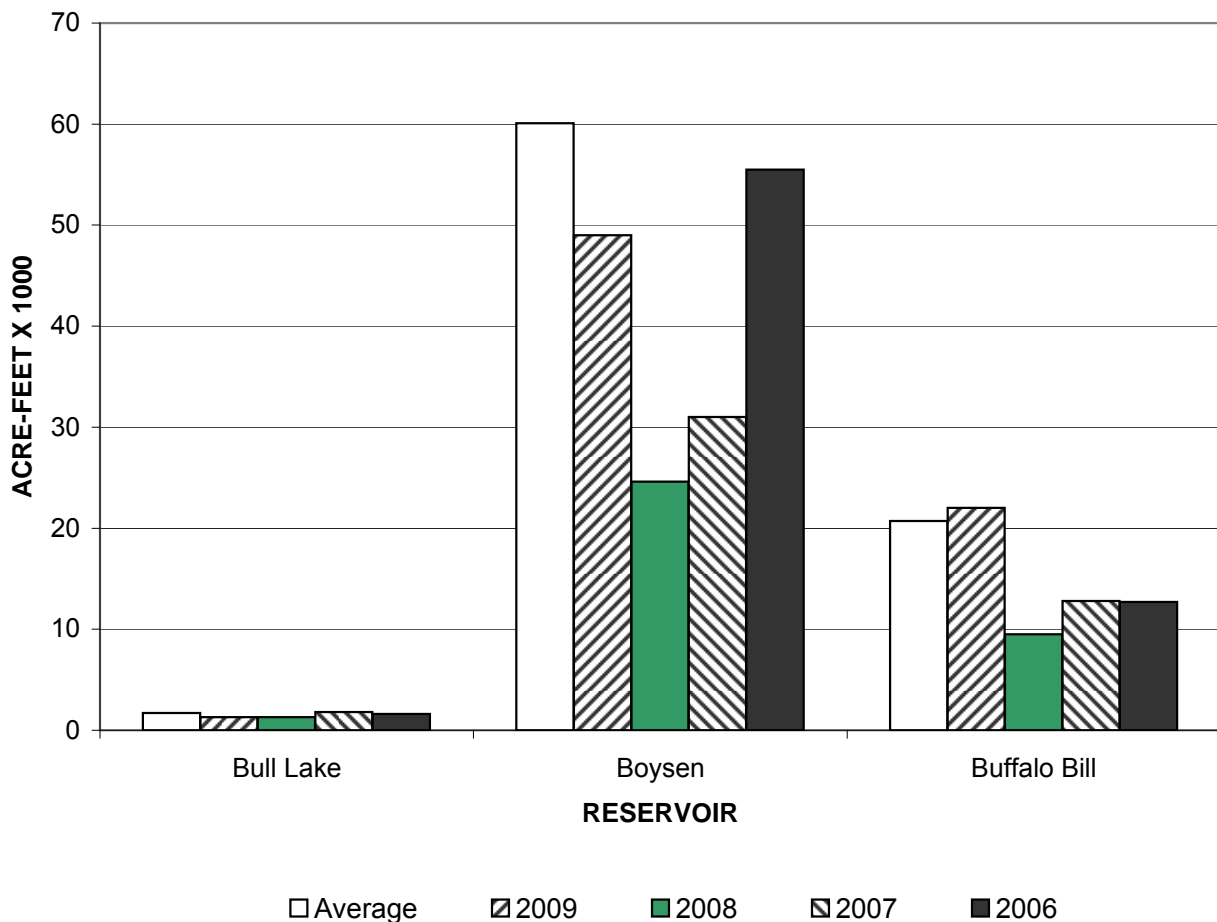
The release from Buffalo Bill Reservoir was above average during March.

(1000 acre-feet)

Reservoir	March Outflow			March Historical Outflow			Accumulated Outflow (October - March)		
	W. Yr. 2009	30 Yr. Avg. ¹	% of Avg.	W. Yr. 2008	W. Yr. 2007	W. Yr. 2006	W. Yr. 2009	30 Yr. Avg.	% of Avg.
Bull Lake	1.3	1.7	76	1.3	1.8	1.6	7.2	16.3	44
Boysen	49.0	60.1	82	24.6	31.0	55.5	260.2	337.3	77
Buffalo Bill	22.0	20.7	106	9.5	12.8	12.7	158.8	124.8	127

¹ Average is based on the 1979-2008 period.

BIGHORN RIVER BASIN RESERVOIR OUTFLOW March



BIGHORN RIVER BASIN STORAGE

Storage at the end of March was above average at all Basin Reservoirs except Pilot Butte Reservoir.

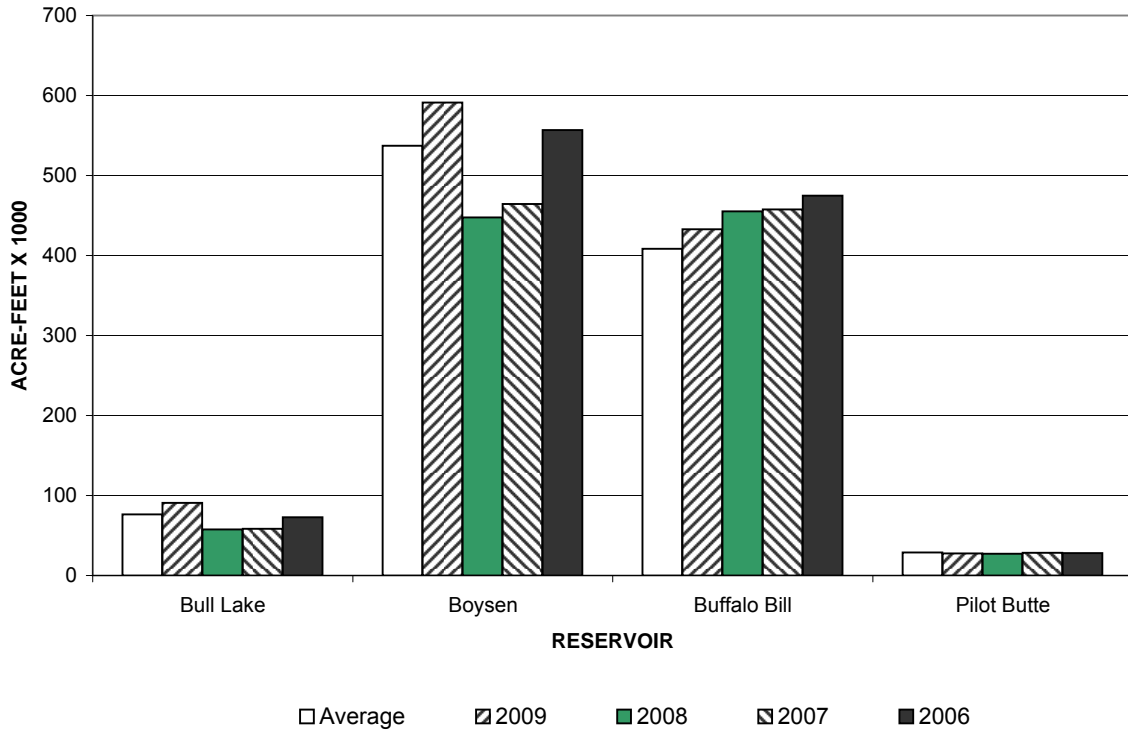
(1000 acre-feet)

Reservoir	Total Storage End of March			End of March Historical Storage			Total Conservation Storage Capacity	Percent of Capacity
	W. Yr. 2009	30 Yr. Avg. ¹	% of Avg.	W. Yr. 2008	W. Yr. 2007	W. Yr. 2006		
Bull Lake	90.9	76.6	119	57.6	58.5	73.0	152.5	60
Boysen	591.4	537.2	110	447.7	464.3	556.8	741.6	80
Buffalo Bill	432.9	408.5 ²	106	455.2	457.7	475.0	646.6	67
Pilot Butte	27.8	28.9	96	27.3	28.6	27.9	33.7	82

¹ Average is based on the 1979-2008 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 2008

**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. 2009	30 Yr. Avg. ²	% of Avg.	W. Yr. 2008	W. Yr. 2007	W. Yr. 2006
Bull Lake Reservoir	12.53	13.57	92	12.0	9.9	11.5
Boysen Reservoir	15.33	14.96	102	15.5	10.9	12.8
Buffalo Bill Reservoir	20.27	20.30	100	20.9	12.8	16.8

Boysen Reservoir Watershed

SWE in inches ¹

Snotel Stations (Elevation)	Water Content	30 Yr. Avg. ²
Burroughs Creek (8,750)	15.7	14.8
Hobbs Park (10,100)	12.7	15.1
Kirwin (9,800)	12.8	11.5
Little Warm (9,620)	12.1	12.0
Togwotee Pass (9,580)	27.4	25.2
Townsend Creek (8,700)	8.4	8.8
Younts Peak (8,350)	18.2	17.3
Watershed Average	15.33	14.96

Buffalo Bill Reservoir Watershed

SWE in inches ¹

Snotel Stations (Elevation)	Water Content	30 Yr. Avg. ²
Blackwater (9,780)	25.0	24.8
Evening Star (9,200)	30.1	30.1
Marquette (8,760)	6.6	9.0
Sylvan Lake (8,420)	20.5	22.8
Sylvan Road (8,120)	14.1	12.9
Togwotee Pass (9,580)	27.4	25.2
Younts Peak (8,350)	18.2	17.3
Watershed Average	20.27	20.30

Bull Lake Reservoir Watershed

SWE in inches ¹

Snotel Stations (Elevation)	Water Content	30 Yr. Avg. ²
Elkhart Park (8,400)	12.8	13.6
Hobbs Park (10,100)	12.7	15.1
Little Warm (9,620)	12.1	12.0
Watershed Average	12.53	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, 2009, 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, 2009 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. 2008	W. Yr. 2007	W. Yr. 2006	W. Yr. 2005
Bull Lake Reservoir	105	130	155	138.5	94	135	103	121	155
Wind River above Bull Lake Creek	250	375	500	397.2	94	412	199	282	387
Boysen Reservoir	325	475	625	541.6	88	522	211	201	589
Buffalo Bill Reservoir	600	700	850	646.3	108	955	427	546	513

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 1979-2008 period.

(1000 acre-feet)

Forecast Points	April 1, 2009 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	105	120	130	94	140	155	138.5
Wind River above Bull Lake Creek	250	324	375	94	426	500	397.2
Boysen Reservoir	325	414	475	88	536	625	541.6
Buffalo Bill Reservoir	600	659	700	108	761	850	646.3

¹ Average is based on the 1979-2008 period.

BIGHORN RIVER BASIN GENERATION

Generation during March was above average at Buffalo Bill Powerplant.

(Energy in giga-watt hours)

Powerplant	March Gross Generation			March Historical Generation			Accumulated Gross Gen. (October - March)		
	W. Yr. 2009	Avg.	% of Avg.	W. Yr. 2008	W. Yr. 2007	W. Yr. 2006	W. Yr. 2009	Avg.	% of Avg.
Boysen ¹	3.9	4.5	87	1.5	2.2	4.5	22.1	27.2	81
Pilot Butte ²	0.0	0.0	0	0.0	0.0	0.0	0.0	0.2	0
Heart Mtn. ³	0.0	0.0	0	0.0	0.0	0.0	0.8	0.8	100
Buffalo Bill ³	3.0	2.9	103	0.0	0.8	0.5	19.3	11.6	166
Shoshone ³	1.3	1.3	100	1.6	1.3	0.9	9.7	8.5	114
Spirit Mtn. ⁴	0.0	0.0	0	0.0	0.0	0.0	0.7	0.9	78

¹ Average is based on the 1979-2008 period.

² Average is based on the 1990-2008 period.

³ Average is based on the 1993-2008 period.

⁴ Average is based on the 1996-2008 period.

BIGHORN RIVER BASIN GROSS GENERATION March

