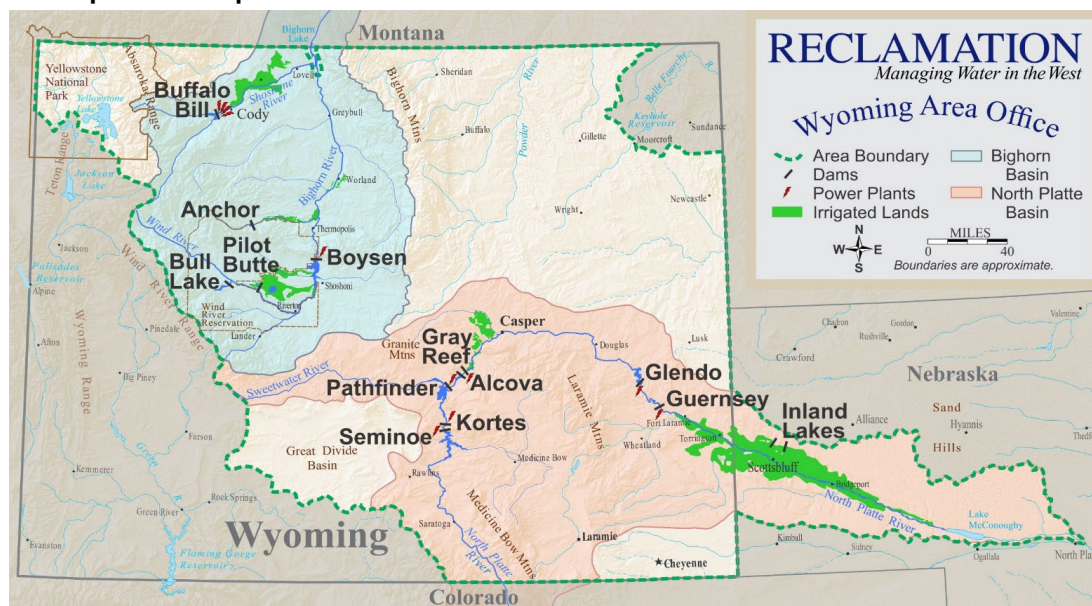




BUREAU OF RECLAMATION

Bighorn Basin Water Supply and Utilization Report Wyoming Area Office Report for April 2023



The Wyoming Area Office of the Bureau of Reclamation is responsible for the operation of Reclamation reservoirs in Wyoming east of the Continental Divide except for Keyhole Reservoir. Four off-stream reservoirs in Nebraska commonly referred to as the Inland Lakes also fall within the Wyoming Area. The North Platte River Basin Reservoirs have a combined storage capacity of 2,800,000 acre-feet. The major reservoirs in the Shoshone and Wind/Bighorn Basins have a combined storage capacity of 1,600,000 acre-feet.

Report for April 2023
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 the current report or reports from the previous 12 months.**

BIGHORN RIVER BASIN RESERVOIR INFLOW

End of April Inflow and Historical Inflows, values in 1,000 acre-feet

Reservoir	W. Yr. 2023	30 Yr. Avg.	% of Avg.	W. Yr. 2022	W. Yr. 2021	W. Yr. 2020
Bull Lake	4.9	4.2	118	2.6	3.1	3.1
Boysen	92.3	50.7	182	37.4	43.1	59.8
Buffalo Bill	36.0	45.9	79	24.0	40.0	47.8

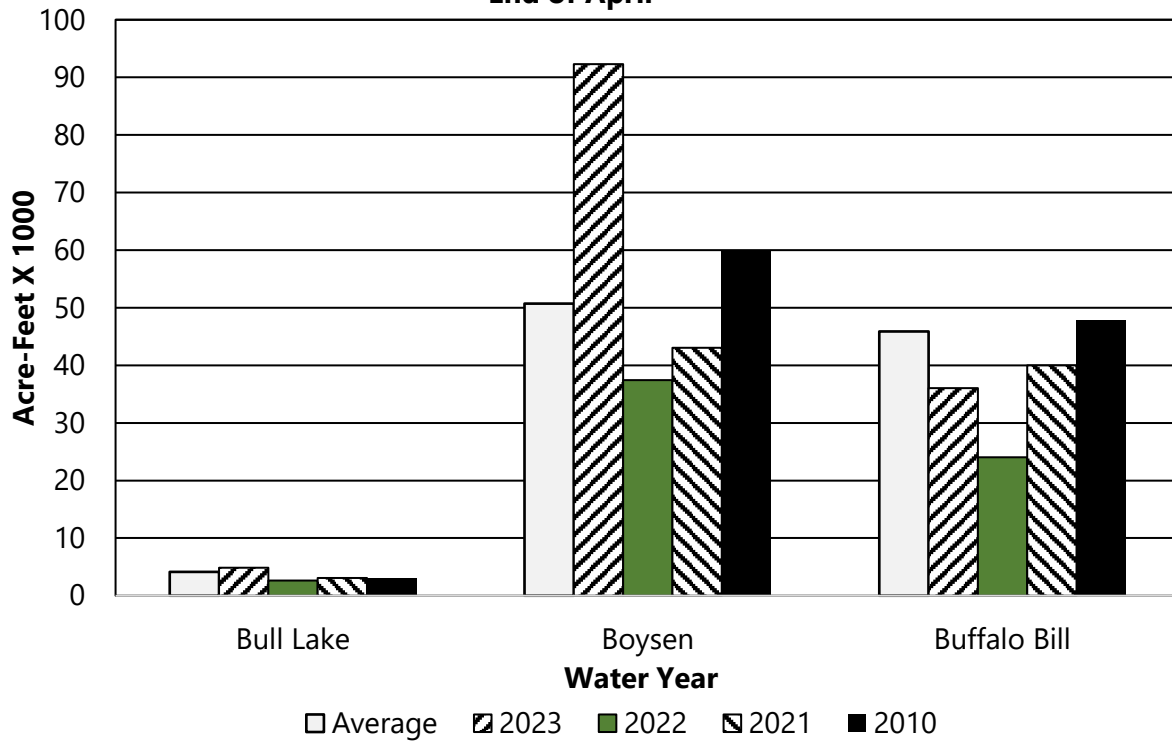
30 year average is based on the 1993- 2022 period.

End of April Accumulated Water Year Inflows

Reservoir	W. Yr. 2023	30 Yr. Avg.	% of Avg.
Bull Lake	27.9	22.2	126
Boysen	354.7	324.7	109
Buffalo Bill	144.4	166.2	87

BIGHORN RIVER BASIN RESERVOIR INFLOW

End of April



BIGHORN RIVER BASIN RESERVOIR OUTFLOW

End of April

Outflow and Historical Outflows, values in 1,000 acre-feet

Reservoir	W. Yr. 2023	30 Yr. Avg.	% of Avg.	W. Yr. 2022	W. Yr. 2021	W. Yr. 2020
Bull Lake	2.2	3.2	68	1.6	1.5	1.2
Boysen	156.7	72.1	217	44.9	37.1	121.0
Buffalo Bill	85.7	70.7	121	38.1	79.0	108.9

30 year average is based on the 1993- 2022 period.

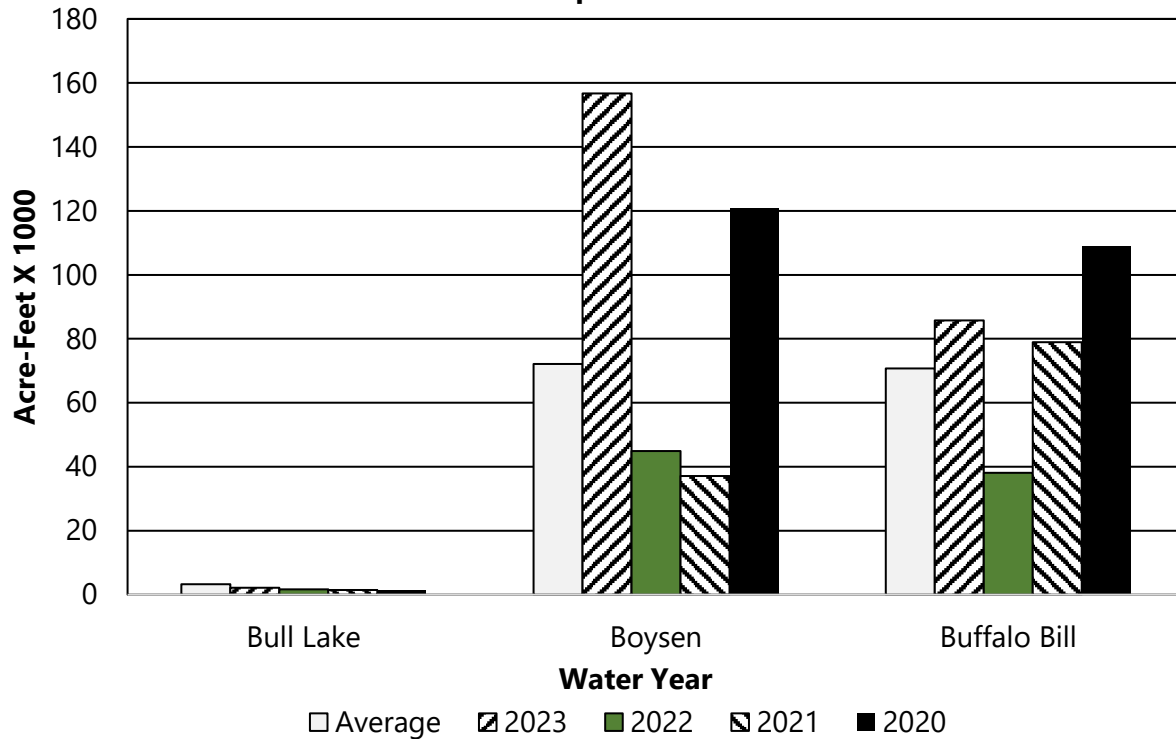
End of April

Accumulated Water Year Outflows

Reservoir	W. Yr. 2023	30 Yr. Avg.	% of Avg.
Bull Lake	12.9	19.5	66
Boysen	493.0	364.9	135
Buffalo Bill	211.2	213.4	99

BIGHORN RIVER BASIN RESERVOIR OUTFLOW

End of April



BIGHORN RIVER BASIN RESERVOIR STORAGE

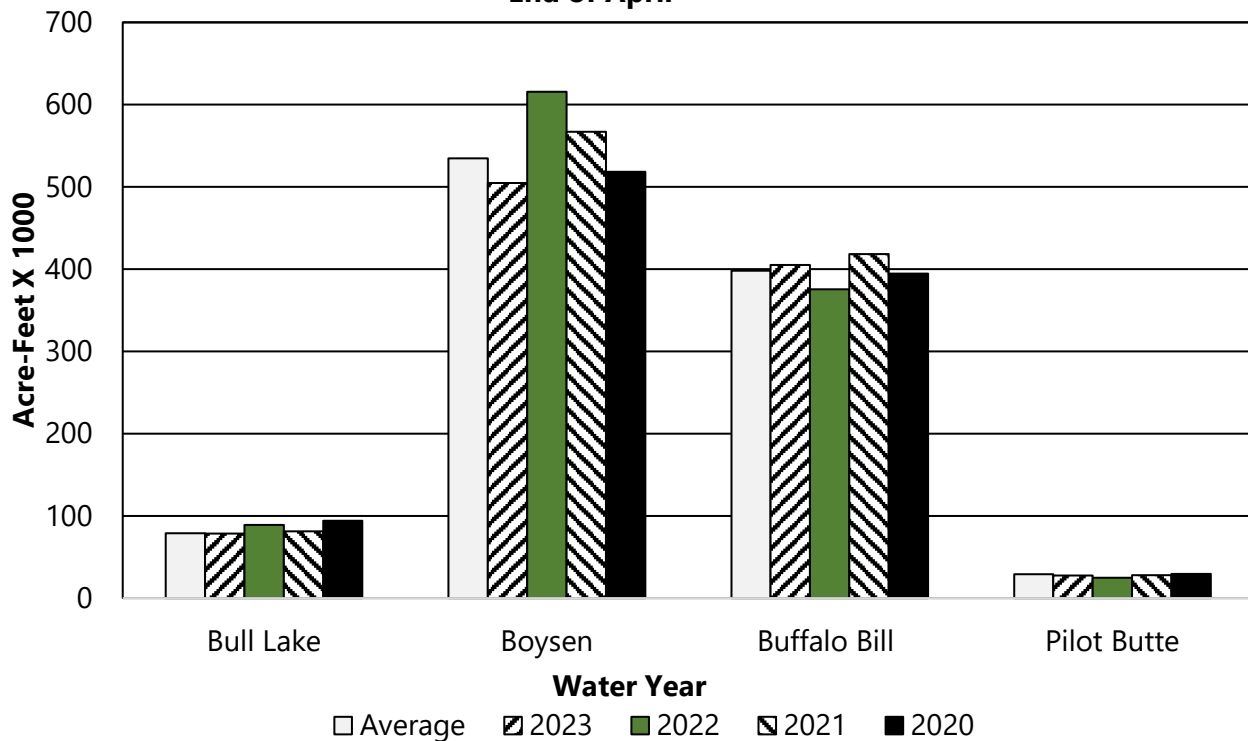
End of April Storage, Historical Storage, and Storage Capacity

Reservoir	W. Yr. 2023	30 Yr. Avg.	% of Avg.	W. Yr. 2022	W. Yr. 2021	W. Yr. 2020	Total Conservation Storage Capacity	Percent of Capacity
Bull Lake	78.6	78.8	100	89.1	81.1	94.0	152.5	52
Boysen	504.8	534.7	94	615.7	567.1	518.5	741.6	68
Buffalo Bill	405.2	398.0	102	375.4	418.3	394.6	646.6	63
Pilot Butte	27.3	29.0	94	24.6	27.8	29.5	33.7	81

Average is based on the 1993-2022 period.

BIGHORN RIVER BASIN RESERVOIR STORAGE

End of April



BIGHORN RIVER BASIN RESERVOIR GENERATION

End of April Gross Generation and Historical Generation

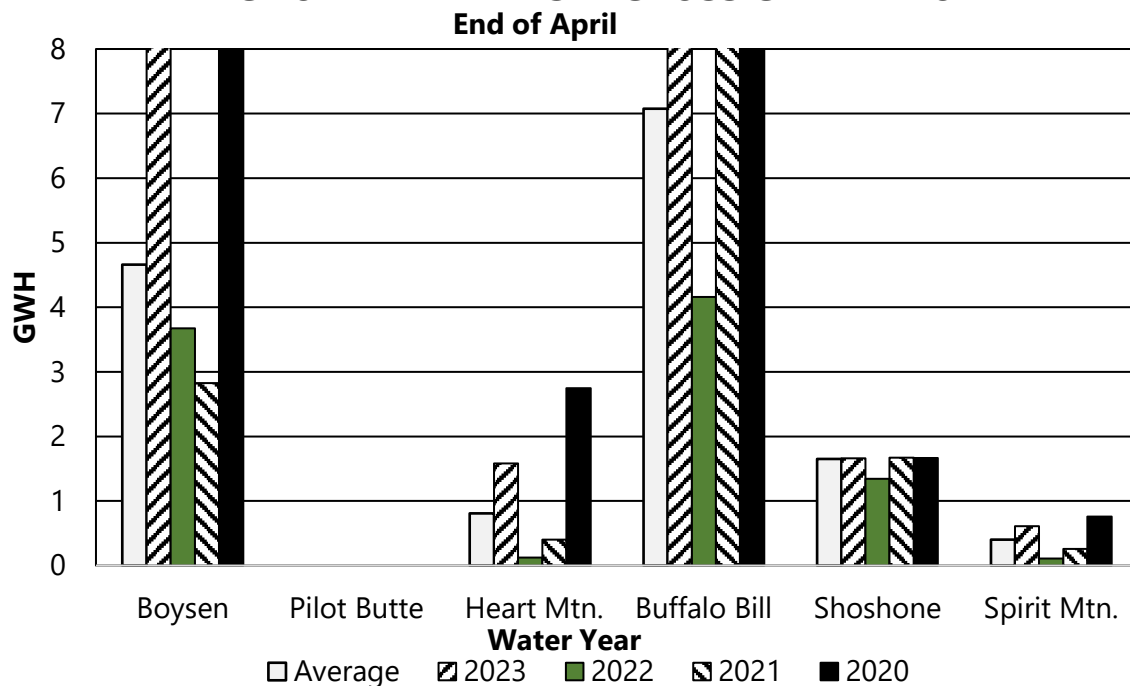
Powerplant	W. Yr. 2023	30 Yr. Avg.	% of Avg.	W. Yr. 2022	W. Yr. 2021	W. Yr. 2020
Boysen	10.3	4.7	220.3	3.7	2.8	9.5
Pilot Butte	0.0	0.0	na	0.0	0.0	0.0
Heart Mtn.	1.6	0.8	195.2	0.1	0.4	2.7
Buffalo Bill	10.2	7.1	143.9	4.2	9.1	12.6
Shoshone	1.7	1.7	100.8	1.3	1.7	1.7
Spirit Mtn.	0.6	0.4	152.3	0.1	0.3	0.8

The 30 year average is based on the 1993 - 2022 period. Pilot Butte Powerplant is currently in "mothballed" status and does not generate electricity. Spirit Mountain average is based on the 1996 - 2022 period.

End of April Accumulated Gross Generation Water Year

Powerplant	W. Yr. 2023	30 Yr. Avg.	% of Avg.
Boysen	34.5	26.0	132.9
Pilot Butte	0	0.2	0
Heart Mtn.	3.5	1.9	184.4
Buffalo Bill	15.4	21.1	73.0
Shoshone	10.9	10.3	106.2
Spirit Mtn.	2.4	1.6	155.2

BIGHORN RIVER BASIN GROSS GENERATION



BIGHORN SNOWPACK WATER CONTENT

May 1st Snow Water Equivalent

SWE in inches

WATERSHED	W. Yr. 2023	30 Yr. Median	% of Median	W. Yr. 2022	W. Yr. 2021	W. Yr. 2020
Bull Lake Reservoir	13.5	12.4	109%	6.1	5.0	7.2
Boysen Reservoir	14.0	14.1	99%	8.8	6.1	6.3
Buffalo Bill Reservoir	16.9	18.0	94%	10.5	9.8	7.9

Boysen Reservoir Watershed

SWE in inches

Snotel Stations (Elevation)	Water Content	30 Yr. Median
Burroughs Creek (8,750)	7.2	12.9
Hobbs Park (10,100)	19	16.8
Kirwin (9,800)	11.2	11.6
Little Warm (9,620)	9.6	9
Togwotee Pass (9,580)	23	25.4
Townsend Creek (8,700)	13.8	9
Younts Peak (8,350)	13.9	14.1
Watershed Average	14.0	14.1

Buffalo Bill Reservoir Watershed

SWE in inches

Snotel Stations (Elevation)	Water Content	30 Yr. Median
Blackwater (9,780)	22.7	25.7
Evening Star (9,200)	27	27.5
Marquette (8,760)	9.5	8
Sylvan Lake (8,420)	19.9	20.2
Sylvan Road (8,120)	2.4	5
Togwotee Pass (9,580)	23	25.4
Younts Peak (8,350)	13.9	14.1
Watershed Average	16.9	18.0

Bull Lake Reservoir Watershed

SWE in inches

Snotel Stations (Elevation)	Water Content	30 Yr. Median
Elkhart Park (8,400)	12	11.4
Hobbs Park (10,100)	19	16.8
Little Warm (9,620)	9.6	9
Watershed Average	13.5	12.4

SWE (Snow Water Content is the amount of water in the snowpack expressed in inches).
Median for the 1991-2020 period.

May 1 BIGHORN WATER SUPPLY FORECAST

April through July Forecast and Historical Runoff Volumes KAF

Forecast Points	April - July Forecast Reasonable Minimum	April - July Forecast Expected	April - July Forecast Reasonable Maximum	30 Yr. April - July Avg.	Expected % of Avg.	Actual April - July Runoff W. Yr. 2022	Actual April - July Runoff W. Yr. 2021	Actual April - July Runoff W. Yr. 2020
Bull Lake Reservoir	130	155	190	144	108	141	126	123
Wind River above Bull Lake Creek	330	450	600	437	103	349	347	424
Boysen Reservoir	500	700	900	611	115	488	380	439
Buffalo Bill Reservoir	550	700	900	748	94	770	548	791

The probability is estimated to be 9 chances in 10 that the actual volume will fall between the reasonable minimum and reasonable maximum. Average is based on the 1993-2022 period.

Forecast Points	90%	70%	50%	% of Avg	30%	10%	30 Yr. April - July Runoff Avg.
Bull Lake Reservoir	130	145	155	108	169	190	144
Wind River above Bull Lake Creek	330	401	450	103	511	600	437
Boysen Reservoir	500	618	700	115	782	900	611
Buffalo Bill Reservoir	550	639	700	94	782	900	748

Average is based on the 1993-2022 period.