

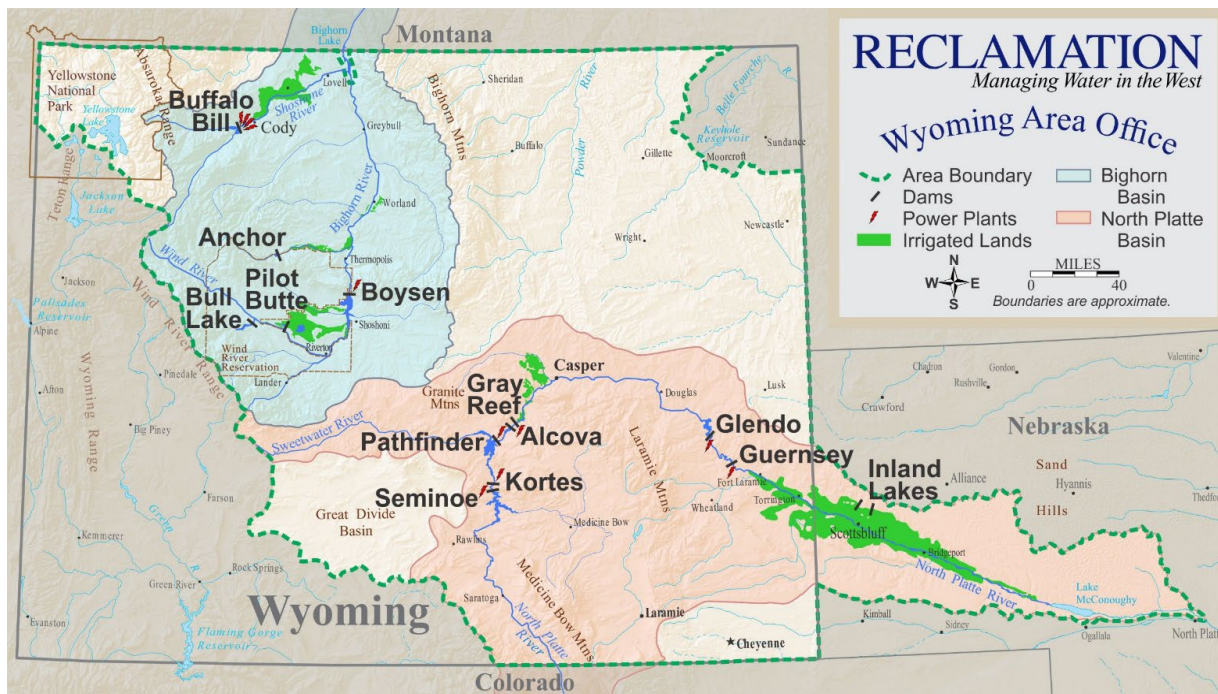


— BUREAU OF —
RECLAMATION

Bighorn Basin Water Supply and Utilization Report

Wyoming Area Office

Report for January 2024



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 January 2024
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 January Inflow and Historical Inflows, values in 1,000 acre-feet

Reservoir	W. Yr. 2024	30 Yr. Avg.	% of Avg.	W. Yr. 2023	W. Yr. 2022	W. Yr. 2021
Bull Lake	1.5	2.1	74	3.3	2.2	1.7
Boysen	37.4	38.1	98	41.2	37.3	32.8
Buffalo Bill	17.0	15.6	109	14.6	11.5	14.5

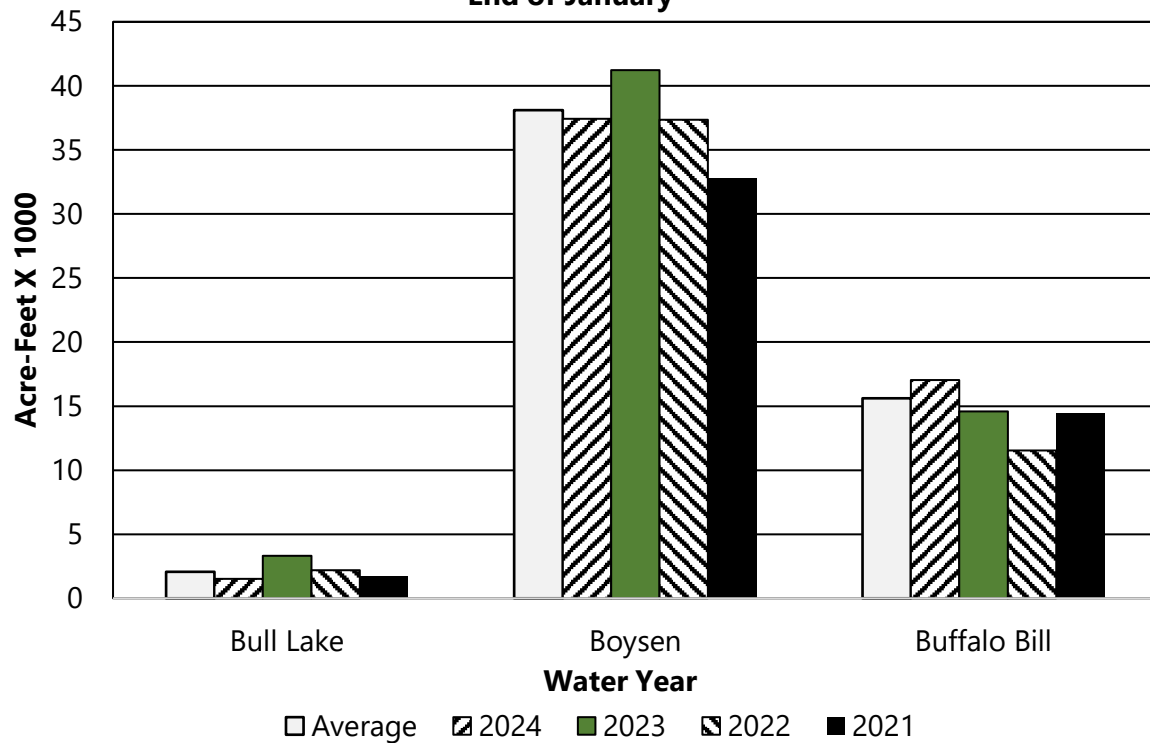
30 year average is based on the 1994- 2023 period.

End of January Accumulated Water Year Inflows in 1,000 acre-feet

Reservoir	W. Yr. 2024	30 Yr. Avg.	% of Avg.
Bull Lake	17.2	14.4	119
Boysen	242.9	183.3	132
Buffalo Bill	131.5	85.6	154

BIGHORN RIVER BASIN RESERVOIR INFLOW

End of January



BIGHORN RIVER BASIN RESERVOIR OUTFLOW

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

Reservoir	W. Yr. 2024	30 Yr. Avg.	% of Avg.	W. Yr. 2023	W. Yr. 2022	W. Yr. 2021
Bull Lake	1.9	1.9	102	1.7	1.6	1.5
Boysen	62.3	47.1	132	57.2	43.2	36.8
Buffalo Bill	18.6	17.4	107	12.7	12.7	11.8

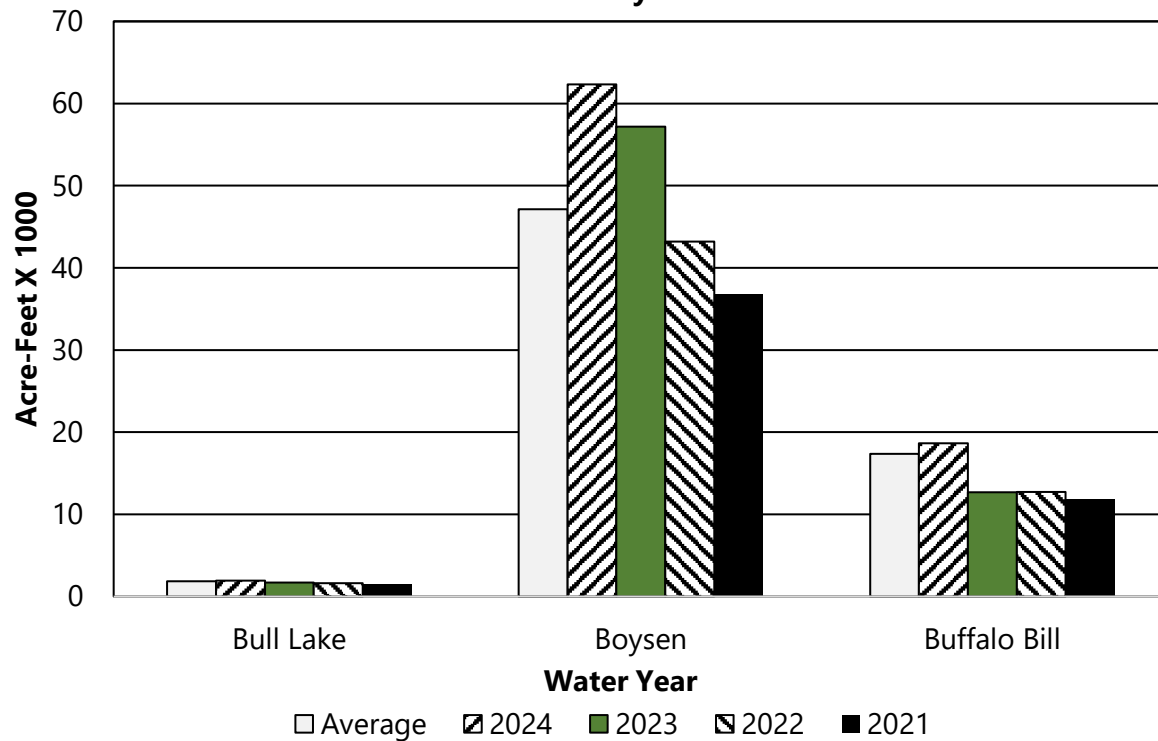
30 year average is based on the 1994- 2023 period.

End of January Accumulated Water Year Outflows in 1,000 acre-feet.

Reservoir	W. Yr. 2024	30 Yr. Avg.	% of Avg.
Bull Lake	27.4	12.6	217
Boysen	285.4	195.5	146
Buffalo Bill	107.7	99.4	108

BIGHORN RIVER BASIN RESERVOIR OUTFLOW

End of January



BIGHORN RIVER BASIN RESERVOIR STORAGE

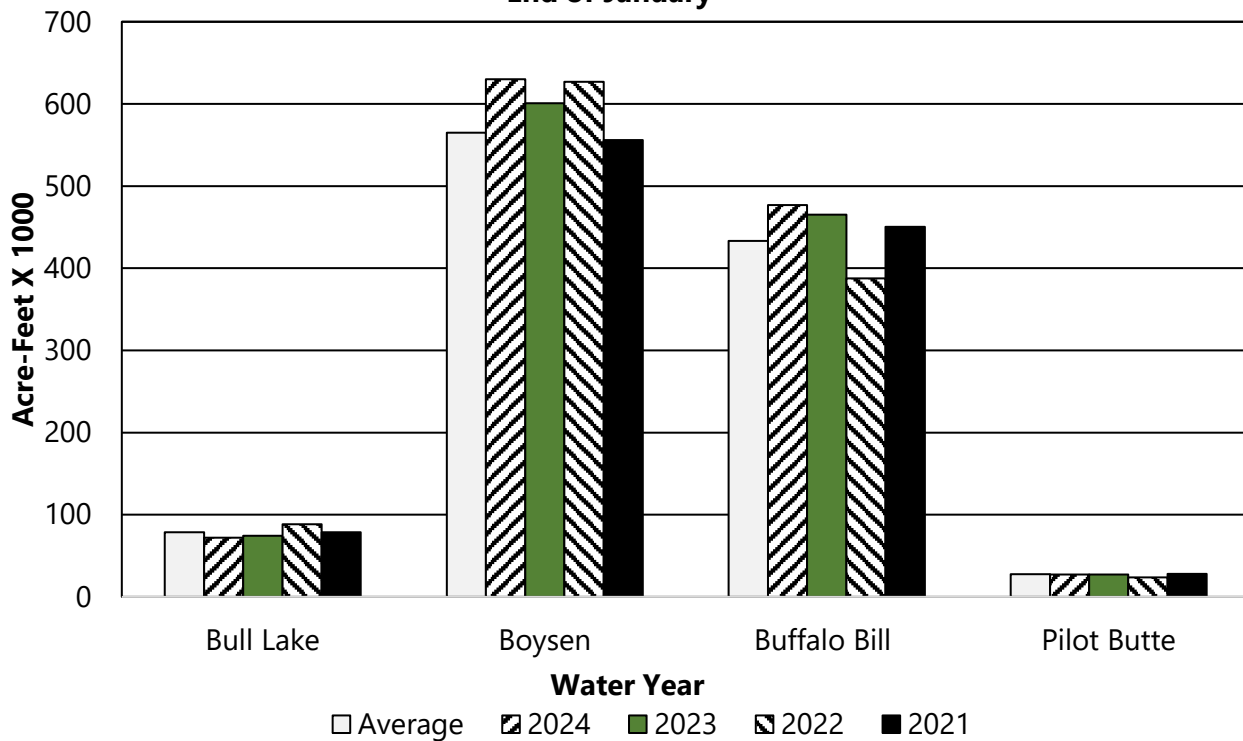
End of January Storage, Historical Storage, and Storage Capacity in 1,000 acre-feet.

Reservoir	W. Yr. 2024	30 Yr. Avg.	% of Avg.	W. Yr. 2023	W. Yr. 2022	W. Yr. 2021	Total Conservation Storage Capacity	Percent of Capacity
Bull Lake	71.9	78.5	92	74.5	88.6	78.7	152.5	47
Boysen	630.2	564.9	112	600.6	626.8	556.1	741.6	85
Buffalo Bill	476.9	433.1	110	465.2	387.6	450.4	646.6	74
Pilot Butte	27.4	27.7	99	27.3	23.9	27.9	33.7	81

30 year average is based on the 1994- 2023 period.

BIGHORN RIVER BASIN RESERVOIR STORAGE

End of January



BIGHORN RIVER BASIN RESERVOIR GENERATION

End of January Gross Generation and Historical Generation in giga-watt hours (GWH).

Reservoir	W. Yr. 2024	30 Yr. Avg.	% of Avg.	W. Yr. 2023	W. Yr. 2022	W. Yr. 2021
Boysen	5.6	3.7	149.6	4.8	3.6	2.9
Pilot Butte	0.0	0.0	0.0	0.0	0.0	0.0
Heart Mtn.	0.0	0.0	0.0	0.0	0.0	0.0
Buffalo Bill	0.9	1.5	61.4	0.0	0.6	0.0
Shoshone	1.8	1.5	117.7	1.7	1.3	1.8
Spirit Mtn.	0.0	0.0	0.0	0.0	0.0	0.0

Th 30 year average is based on the 1994 - 2023 period. Pilot Butte Powerplant is currently in "mothballed" status and does not generate electricity. Spirit Mountain average is based on the 1996 - 2023 period.

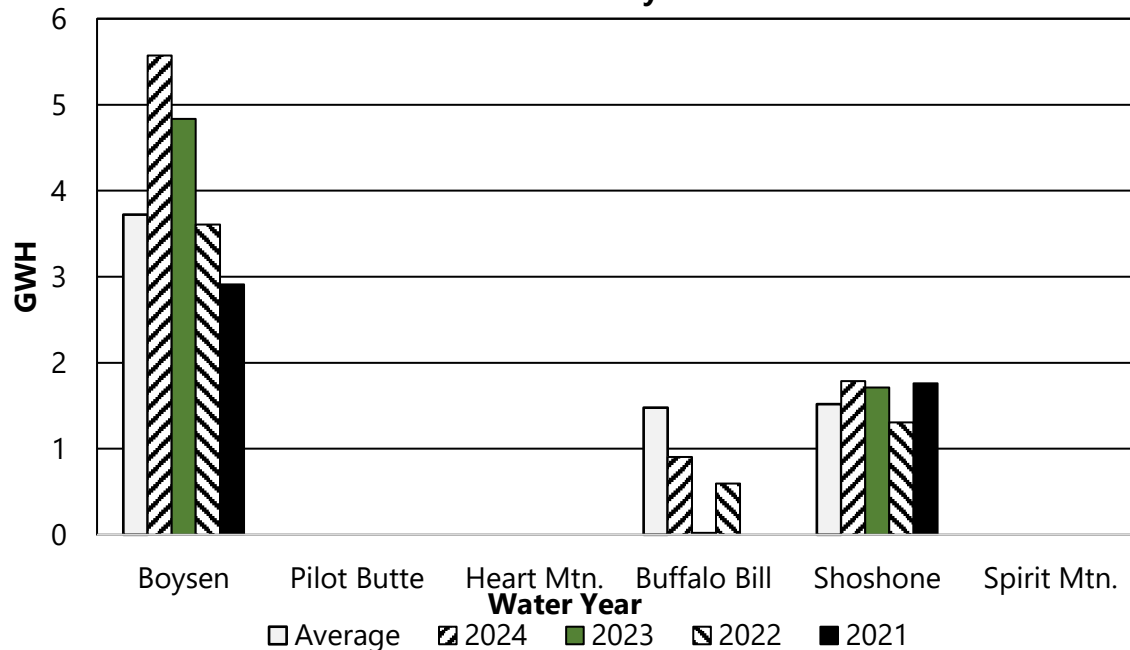
End of January Accumulated Gross Generation Water Year in GWH.

Powerplant	W. Yr. 2024	30 Yr. Avg.	% of Avg.
Boysen	23.2	14.3	162.1
Pilot Butte	0	0.2	0
Heart Mtn.	2.0	1.1	189.4
Buffalo Bill	6.5	8.5	75.9
Shoshone	6.7	6.2	107.4
Spirit Mtn.	1.6	1.2	135.2

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BIGHORN RIVER BASIN GROSS GENERATION

End of January



BIGHORN SNOWPACK WATER CONTENT

February 1st Snow Water Equivalent

SWE in inches

WATERSHED	W. Yr. 2024	30 Yr. Median	% of Median	W. Yr. 2023	W. Yr. 2022	W. Yr. 2021
Bull Lake Reservoir	6.0	7.3	83%	8.2	6.1	5.0
Boysen Reservoir	6.6	8.4	79%	8.7	8.8	6.1
Buffalo Bill Reservoir	8.3	11.5	72%	10.8	10.5	9.8

Boysen Reservoir Watershed

SWE in inches

Snotel Stations (Elevation)	Water Content	30 Yr. Median
Burroughs Creek (8,750)	6.1	8.5
Hobbs Park (10,100)	7.9	7.9
Kirwin (9,800)	6.9	6.8
Little Warm (9,620)	4.7	6.3
Togwotee Pass (9,580)	10.0	14.6
Townsend Creek (8,700)	4.1	5.2
Younts Peak (8,350)	6.4	9.2
Watershed Average	6.6	8.4

Buffalo Bill Reservoir Watershed

SWE in inches

Snotel Stations (Elevation)	Water Content	30 Yr. Median
Blackwater (9,780)	12.2	14.7
Evening Star (9,200)	10.9	17.5
Marquette (8,760)	7.0	4.2
Sylvan Lake (8,420)	8.1	12.5
Sylvan Road (8,120)	3.6	8
Togwotee Pass (9,580)	10	14.6
Younts Peak (8,350)	6.4	9.2
Watershed Average	8.3	11.5

Bull Lake Reservoir Watershed

SWE in inches

Snotel Stations (Elevation)	Water Content	30 Yr. Median
Elkhart Park (8,400)	5.4	7.6
Hobbs Park (10,100)	7.9	7.9
Little Warm (9,620)	4.7	6.3
Watershed Average	6.0	7.3

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

January 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. 2023	Actual April - July Runoff W. Yr. 2022	Actual April - July Runoff W. Yr. 2021
Bull Lake Reservoir	100	120	180	146	82	187	141	126
Wind River above Bull Lake Creek	280	360	560	440	82	523	349	347
Boysen Reservoir	230	520	1000	625	83	1058	488	380
Buffalo Bill Reservoir	380	530	800	754	70	765	770	548

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 1994-2023 period.

Forecast Points	90%	70%	50%	% of Avg	30%	10%	30 Yr. April - July Runoff Avg.
Bull Lake Reservoir	100	112	120	82	145	180	146
Wind River above Bull Lake Creek	280	327	360	82	442	560	440
Boysen Reservoir	230	401	520	83	717	1000	625
Buffalo Bill Reservoir	380	469	530	70	641	800	754

Average is based on the 1994-2023 period.