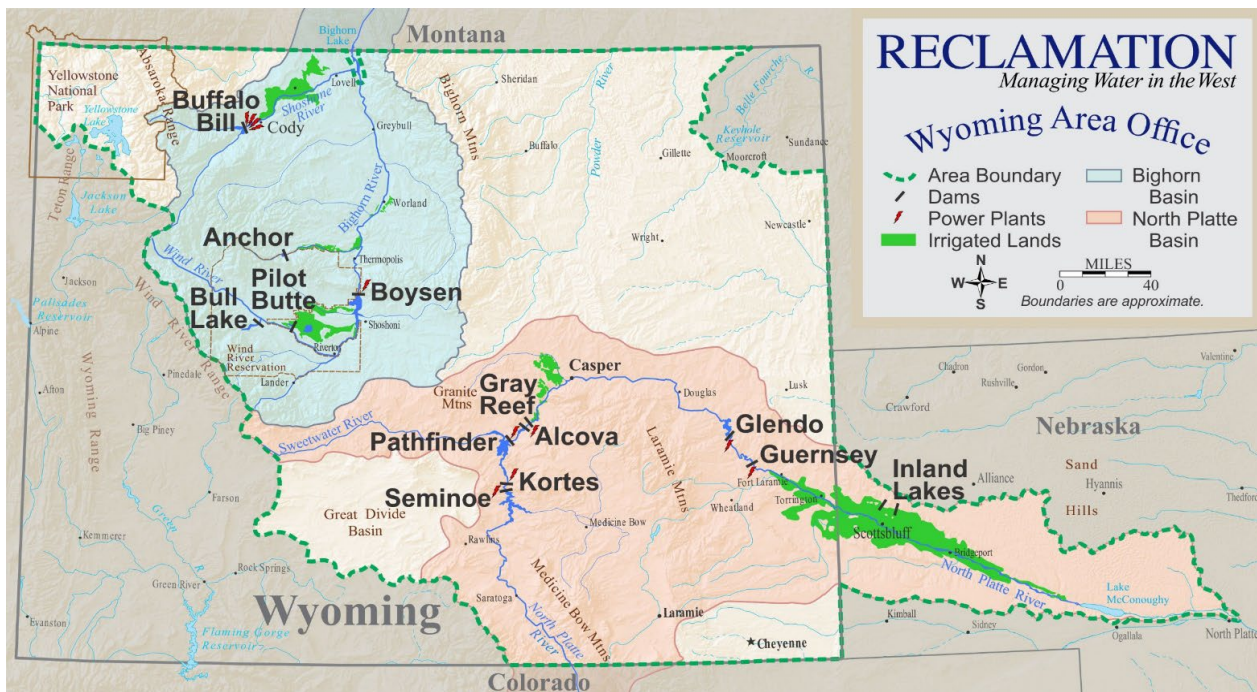




BUREAU OF RECLAMATION

Bighorn Basin Water Supply and Utilization Report Wyoming Area Office Report for March 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 March 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 March Inflow and Historical Inflows, values in 1,000 acre-feet

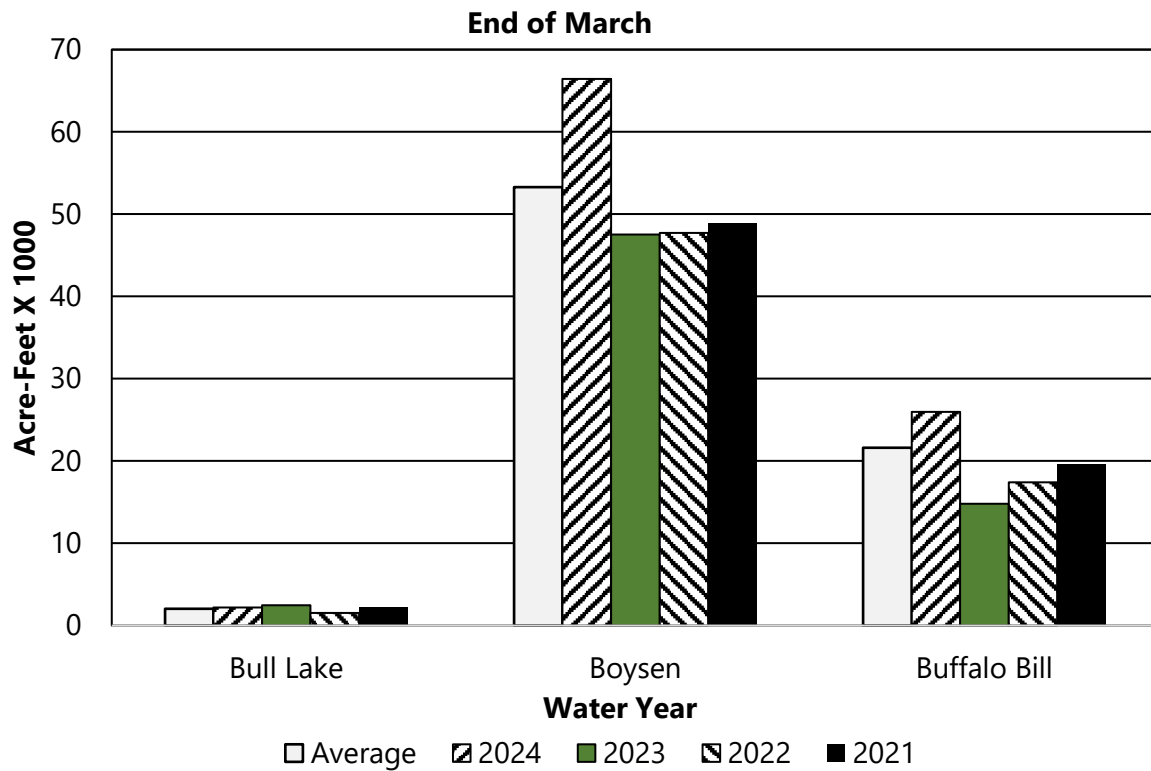
Reservoir	W. Yr. 2024	30 Yr. Avg.	% of Avg.	W. Yr. 2023	W. Yr. 2022	W. Yr. 2021
Bull Lake	2.2	2.0	108	2.5	1.5	2.2
Boysen	66.4	53.3	125	47.5	47.7	48.9
Buffalo Bill	26.0	21.6	120	14.8	17.4	19.6

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

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

Reservoir	W. Yr. 2024	30 Yr. Avg.	% of Avg.
Bull Lake	21.2	18.1	117
Boysen	359.5	275.0	131
Buffalo Bill	176.0	120.6	146

BIGHORN RIVER BASIN RESERVOIR INFLOW



BIGHORN RIVER BASIN RESERVOIR OUTFLOW

End of March 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	1.8	105	1.7	1.6	1.5
Boysen	62.3	58.4	107	62.6	43.8	37.5
Buffalo Bill	19.2	27.3	70	26.0	12.9	13.8

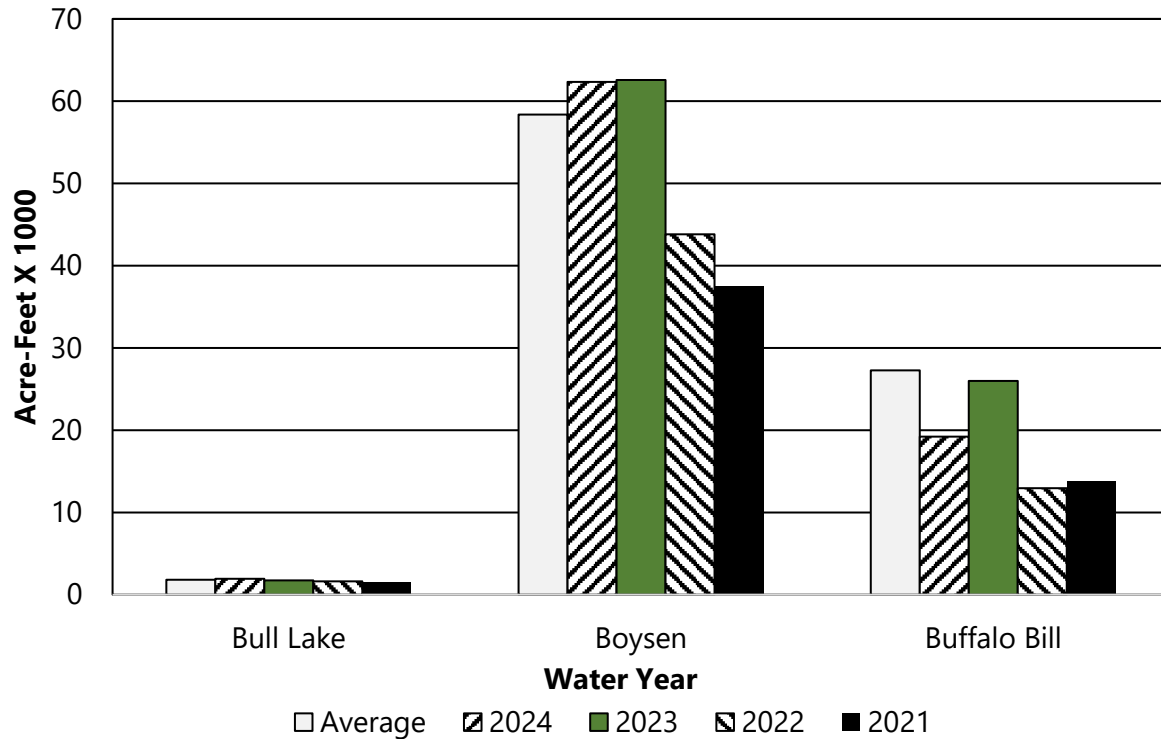
30 year average is based on the 1994- 2023 period.

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

Reservoir	W. Yr. 2024	30 Yr. Avg.	% of Avg.
Bull Lake	31.1	16.1	193
Boysen	406.2	296.8	137
Buffalo Bill	144.7	144.2	100

BIGHORN RIVER BASIN RESERVOIR OUTFLOW

End of March



BIGHORN RIVER BASIN RESERVOIR STORAGE

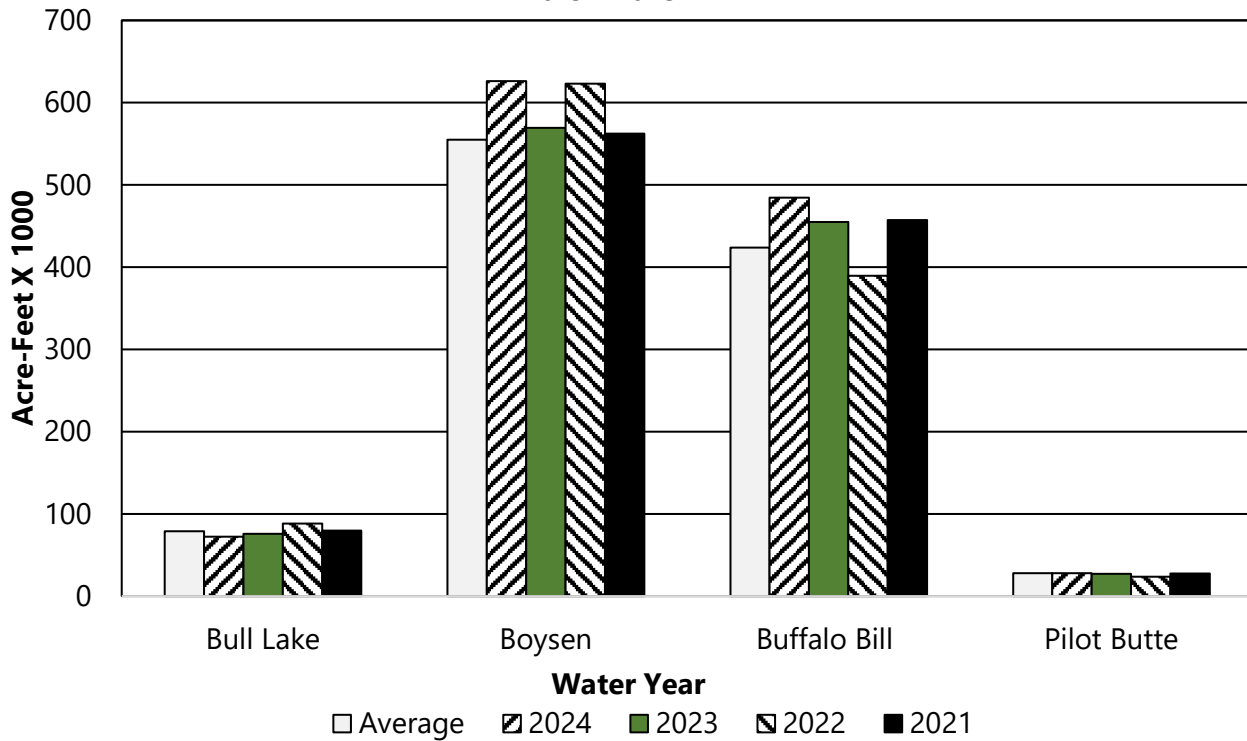
End of March Storage, Historical Storage, and Storage Capacity in 1,000 acre-feet.

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	72.2	78.7	92	75.9	88.1	79.5	152.5	47
Boysen	626.1	555.1	113	569.2	623.2	562.5	741.6	84
Buffalo Bill	484.4	423.9	114	454.9	389.4	457.3	646.6	75
Pilot Butte	27.9	28.0	100	27.3	23.5	27.6	33.7	83

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

BIGHORN RIVER BASIN RESERVOIR STORAGE

End of March



BIGHORN RIVER BASIN RESERVOIR GENERATION

End of March 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	1.6	3.9	40.3	5.2	3.3	2.9
Pilot Butte	0.0	0.0	0.0	0.0	0.0	0.0
Heart Mtn.	0.0	0.1	0.0	0.0	0.0	0.0
Buffalo Bill	1.0	3.3	29.4	3.4	0.2	0.5
Shoshone	1.7	1.4	122.8	1.3	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.

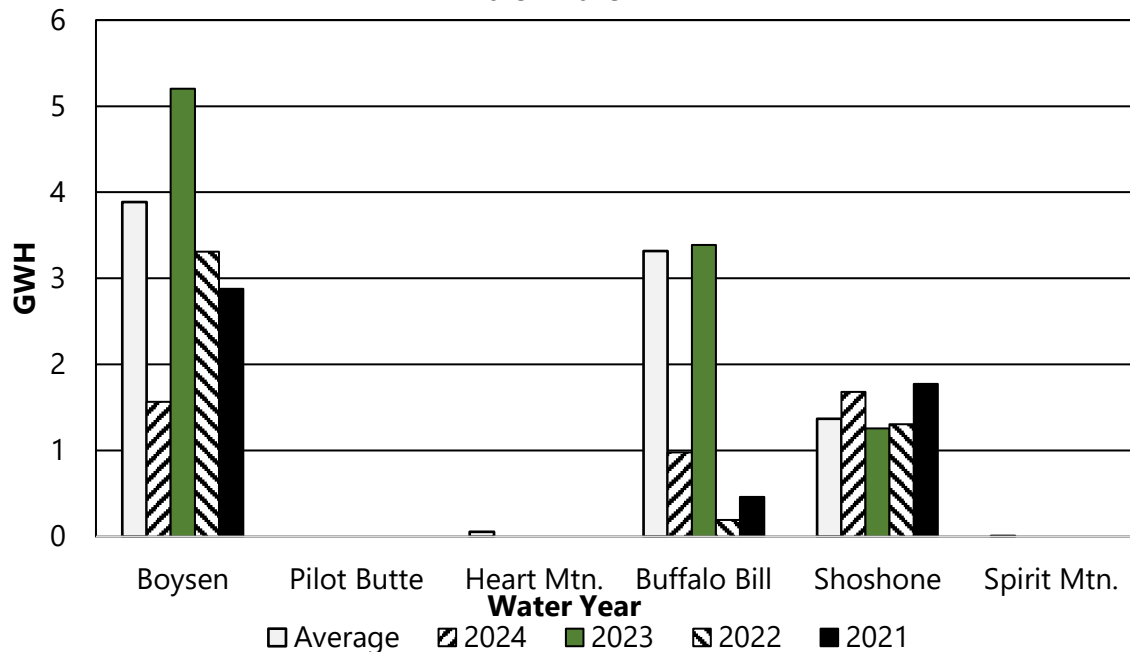
End of March Accumulated Gross Generation Water Year in GWH.

Powerplant	W. Yr. 2024	30 Yr. Avg.	% of Avg.
Boysen	29.9	21.4	140.1
Pilot Butte	0	0.2	0
Heart Mtn.	2.0	1.1	180.1
Buffalo Bill	8.3	13.7	60.4
Shoshone	9.9	8.6	115.2
Spirit Mtn.	1.6	1.2	134.1

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BIGHORN RIVER BASIN GROSS GENERATION

End of March



BIGHORN SNOWPACK WATER CONTENT

April 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	12.8	12.1	106%	12.4	10.2	10.3
Boysen Reservoir	13.9	13.3	104%	13.7	11.1	12.3
Buffalo Bill Reservoir	16.1	17.1	94%	17.8	12.8	16.4

Boysen Reservoir Watershed

SWE in inches

Snotel Stations (Elevation)	Water Content	30 Yr. Median
Burroughs Creek (8,750)	11.8	12.7
Hobbs Park (10,100)	16.5	13.8
Kirwin (9,800)	13.5	10.4
Little Warm (9,620)	10.4	10.2
Togwotee Pass (9,580)	20.0	22.9
Townsend Creek (8,700)	10.5	8.9
Younts Peak (8,350)	14.5	14.2
Watershed Average	13.9	13.3

Buffalo Bill Reservoir Watershed

SWE in inches

Snotel Stations (Elevation)	Water Content	30 Yr. Median
Blackwater (9,780)	22.2	22
Evening Star (9,200)	20.6	24.4
Marquette (8,760)	12.0	6.8
Sylvan Lake (8,420)	16	19.1
Sylvan Road (8,120)	7.7	10.6
Togwotee Pass (9,580)	20	22.9
Younts Peak (8,350)	14.5	14.2
Watershed Average	16.1	17.1

Bull Lake Reservoir Watershed

SWE in inches

Snotel Stations (Elevation)	Water Content	30 Yr. Median
Elkhart Park (8,400)	11.4	12.2
Hobbs Park (10,100)	16.5	13.8
Little Warm (9,620)	10.4	10.2
Watershed Average	12.8	12.1

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

April 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	140	160	195	146	110	187	141	126
Wind River above Bull Lake Creek	300	450	620	440	102	523	349	347
Boysen Reservoir	440	750	1150	625	120	1058	488	380
Buffalo Bill Reservoir	470	640	820	754	85	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	140	152	160	110	174	195	146
Wind River above Bull Lake Creek	300	389	450	102	520	620	440
Boysen Reservoir	440	623	750	120	914	1150	625
Buffalo Bill Reservoir	470	570	640	85	714	820	754

Average is based on the 1994-2023 period.