

North Platte River Water Supply Update EAC/RCC Meeting May 2, 2023

Figure 1 shows reservoir storage conditions for Reclamation reservoirs on the North Platte River as of April 26, 2023, and provides a comparison of total inflow, total Guernsey Reservoir outflow, and total system storage for water years 2018 through 2022, including the statistical “most probable” 2023 operations compiled from the April operating plan. The term “kaf” used in this report represents 1000 acre-feet. All averages used in this report are for the period 1993-2022.

The North Platte total system storage of 1,351.3 kaf on March 31, 2023 represents a decrease in the system storage of 130.2 kaf from water year 2022 (1,481.5 kaf). This system storage decrease is attributable to lower than average inflows during water year 2022 accompanied by an allocation for North Platte Project irrigators. Deliveries from Guernsey Reservoir were discontinued on September 28, 2022. The North Platte Project Irrigation Districts conserved approximately 117.0 kaf of carryover storage at the end of September 2022.

The total system expected probable inflow for 2023 is estimated to be 1,553 kaf, which is an above average inflow condition. The total Guernsey Reservoir probable outflow for 2023 is estimated to be 1,056.4 kaf for October through September which reflects no allocation expected for the North Platte Project contractors. The projected total system storage on September 30, 2023, is estimated to be 103% of average (1,330.0 kaf/1,293.9 kaf) or 47% of the total conservation capacity of the system.

Figure 2 and Figure 3 provide snow water equivalent (SWE) information expressed in inches of water for the upper and lower North Platte River basins compared to last year and average. Figure 4 is the Natural Resource Conservation Service (NRCS) statewide SWE map in percent of median. The upper North Platte is 131%, Sweetwater is 164% and Lower North Platte is 130% of median for April 27, 2023. Total forecast calculated on April 01, 2023 for the April through July inflow to the system is 1,150 kaf acre-ft which is 127% of average (906 kaf).

Table 1 shows the projected April through September operations with actual October through March Inflows based on reasonable expected inflow conditions. The operating plans are updated monthly to reflect changing inflow conditions. This report focuses on the information associated with the April most probable operating plan. Table 2 shows the April 1 forecast of April-July inflow for water year 2023.

Table 1 also includes the accompanying information for the 30-year average (1993-2022) for comparison. Based on the April most probable North Platte River Operating Plan, the North Platte Pathfinder ownership is estimated to reach a maximum ownership content of 1,070.0 kaf (100% of full) by the end of June. This would indicate that the Pathfinder Irrigation, Wyoming, and Environmental accounts will likely fill. Releases from Guernsey Reservoir will be in response to demands, and a full water supply is expected to be available for irrigation.

Reclamation will continue to update the North Platte River operating plans on a monthly basis in response to changing inflow conditions. Reclamation will prepare forecasts of the April through July snowmelt runoff continuing through May 1. The above projected operations are subject to change in response to fluctuating inflow conditions. For additional information regarding current reservoir contents and releases, please visit our website (https://www.usbr.gov/gp/lakes_reservoirs/index.html and <https://www.usbr.gov/gp/hydromet/>).

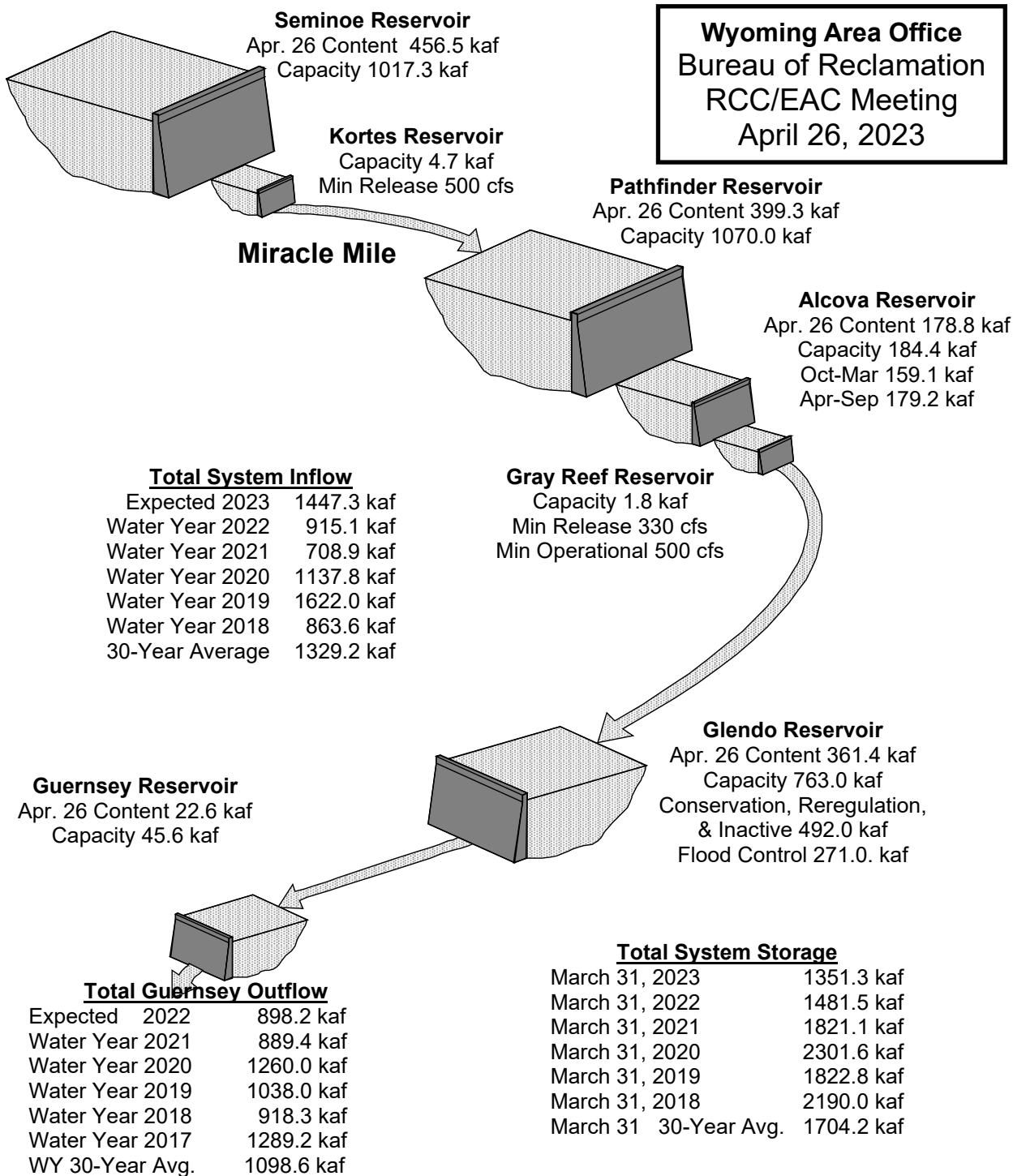
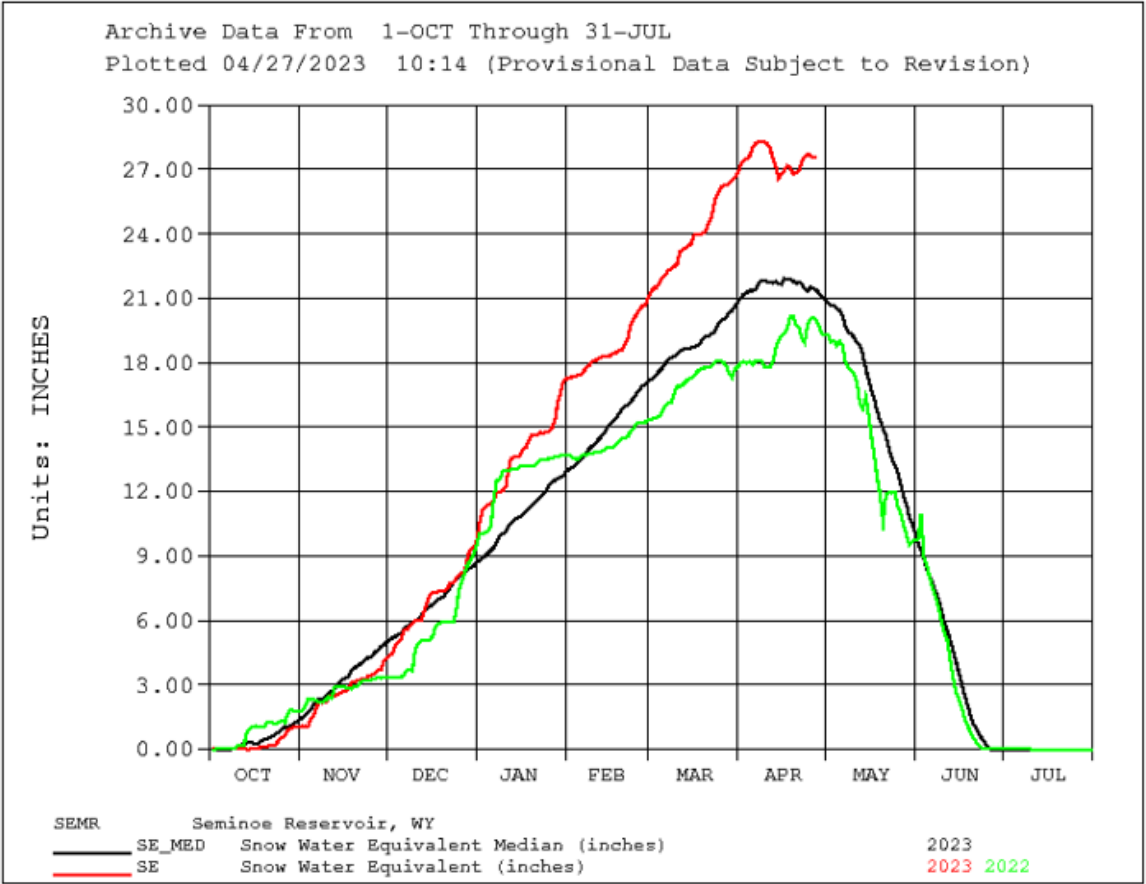


Figure 1. North Platte River System, Seminoe Reservoir to Guernsey Reservoir
Total System Conservation Capacity 2815.9 kaf

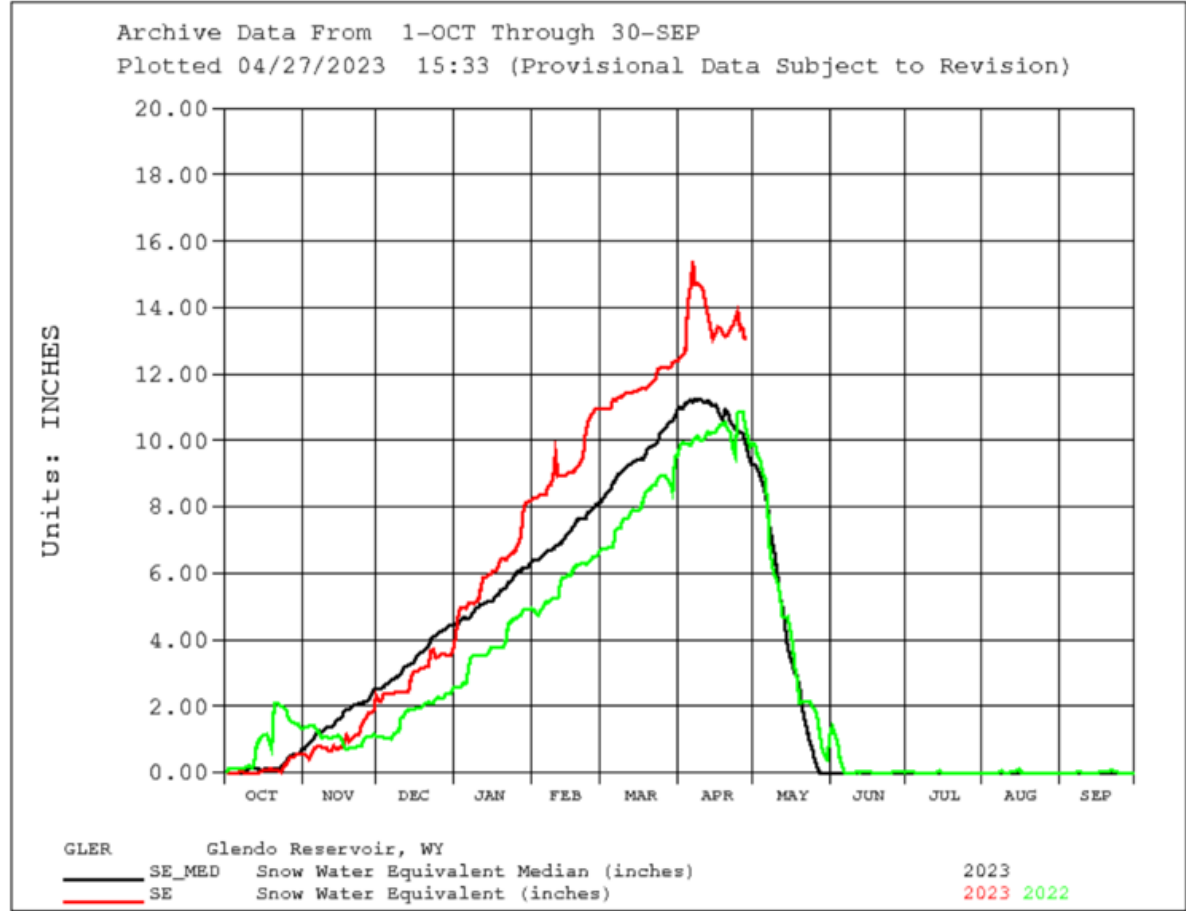
Figure 2. Basin above Seminole Reservoir Snow Water Equivalent vs. April-July Runoff



Water Year	April-July SEMR Inflow (acre-Feet)
2022	547,365
2023*	950,000
30-Year Mean	718,199

* Forecast value

Figure 3. Alcova to Glendo Reach Snow Water Equivalent vs. April – July Inflow



Water Year	April-July AL-GL Gain (acre-Feet)
2022	80,668
2023	119,900
30-Year Mean	145,665

* Forecast value

Figure 4. Snow Water Equivalent Percentage by Basin for the State of Wyoming

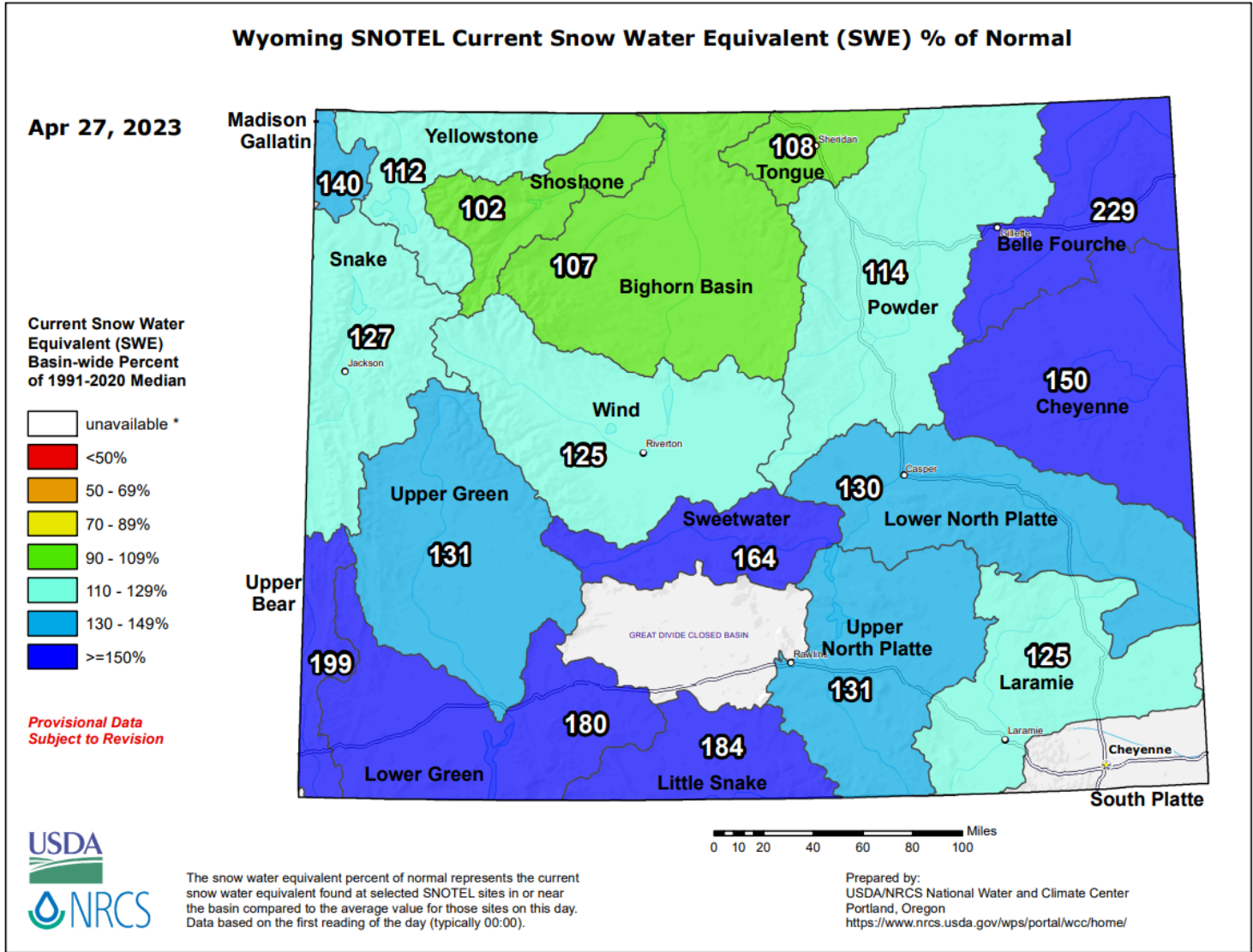


Table 1. North Platte River System Operating Plan - March Update for Water Year 2023

Projected Total System Inflow													1000 x acre-feet
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Most Probable #	46.5	43.3	37.9	38.1	46.0	80.8	213.5	405.3	441.2	128.2	39.4	33.1	1,553.3
Average 1993-2022	44.5	44.2	38.9	44.1	46.3	87.9	164.9	341.6	335.2	104.1	34.8	32.8	1,319.3
Most Probable % of Avg.	0%	0%	97%	0%	0%	0%	0%	0%	0%	0%	0%	0%	118%

Projected Guernsey Reservoir Outflow													1000 x acre-feet
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Most Probable #	0.3	0.2	0.3	0.3	0.2	0.3	40.0	85.9	119.6	306.9	304.0	198.4	1,056.4
Average 1993-2022	2.3	0.4	0.4	0.5	0.6	12.8	47.8	142.6	180.2	311.6	283.4	120.3	1,102.8
Most Probable % of Avg.	13%	50%	67%	57%	34%	2%	84%	60%	66%	99%	107%	165%	96%

Projected Total System End-of-Month Storage													1000 x acre-feet
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Most Probable #	1,153.6	1,179.2	1,200.9	1,226.7	1,275.7	1,351.3	1,473.1	1,763.4	2,046.9	1,821.6	1,519.3	1,330.0	
Average 1993-2022	1,343.6	1,385.3	1,419.9	1,459.7	1,501.6	1,567.7	1,645.7	1,813.5	1,926.9	1,677.1	1,397.7	1,293.9	
Most Probable % of Avg.	86%	85%	85%	84%	85%	86%	90%	97%	106%	109%	109%	103%	

2023 ending percent of total system capacity 47%

Actual data in the October through March Columns. Most Probable data in the April through September columns.

Table 2. North Platte River Basin Forecast Water Year 2023

Forecast Points	April 1, 2023 Forecast of April-July Runoff			30 Yr. April-July Runoff Avg. ²	Expected % of Avg.	Comparative Actual April - July Runoff			
	Reasonable Maximum ¹	Expected	Reasonable Minimum ¹			W. Yr. 2022	W. Yr. 2021	W. Yr. 2020	W. Yr. 2019
Seminole Reservoir	1300	950	600	718	132	547	339	632	1008
Sweetwater River Above Pathfinder Reservoir	120	80	50	53	150	17	17	25	57
Alcova to Glendo	200	120	50	145	83	81	110	134	210

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 1993-2022 period.