

North Platte River Water Supply Update EAC/RCC Meeting May 3, 2022

Figure 1 shows reservoir storage conditions for Reclamation reservoirs on the North Platte River as of April 27, 2022, and provides a comparison of total inflow, total Guernsey Reservoir outflow, and total March 31 system storage for water years 2017 through 2021, including the statistical “most probable” 2022 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 1992-2021.

The North Platte total system storage of 1481.5 kaf on March 31, 2022 represents a decrease in the system storage of 339.6 kaf from water year 2021 (1821.1 kaf). This system storage decrease is attributable to lower than average inflows during water year 2021 accompanied by an allocation for North Platte Project irrigators. Deliveries from Guernsey Reservoir were discontinued on September 11, 2021. However, the Guernsey gates were kept open to pass inflows to keep the reservoir empty while the powerplant intake gate was refurbished (Sept. 2021 – Mar. 2022). The North Platte Project Irrigation Districts conserved approximately 141.1 kaf of carryover storage at the end of September 2021.

The total system probable inflow for 2022 is estimated to be 927.5 kaf, which is a below average inflow condition. The total Guernsey Reservoir probable outflow for 2022 is estimated to be 898.2 kaf for October through September which reflects an expected allocation for the North Platte Project contractors. The projected total system storage on September 30, 2022, is estimated to be 76% of average (1097.6 kaf/1452.2 kaf) or 39% 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 93%, Sweetwater is 86% and Lower North Platte is 104% of median for May 2, 2022. Caution should be used while interpreting these percentages because the average/median snow curves peaked in April and are declining. Total forecast calculated on April 01, 2022 for the April through July inflow to the system is 565,000 acre-ft which is 62% of average (906 kaf).

Table 1 shows the projected April through September operations with actual October through March Inflows based on reasonable minimum, most probable, and reasonable maximum inflow conditions. These statistical inflow conditions provide the range for Reclamation operating plans in the North Platte River Basin. 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 October – March inflow for water year 2022.

Table 1 also includes the accompanying information for water year 2021 and the 30-year average (1992-2021) 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 600.1 kaf (56% of full) by the end of June. This would indicate that the Pathfinder Irrigation, Wyoming, and Environmental accounts would not fill. The Guernsey and Inland Lakes Ownerships have already filled, and the Glendo Ownership is currently accruing water. Since the Pathfinder ownership is not expected to fill, the Kendrick Ownership is not expected to accrue any water for the remainder of the water year. Releases from Guernsey Reservoir will be in response to demands. An allocation is currently expected for North Platte Project contractors. Releases from Guernsey Reservoir are scheduled as demands only under the most probable operating plan.

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/>).

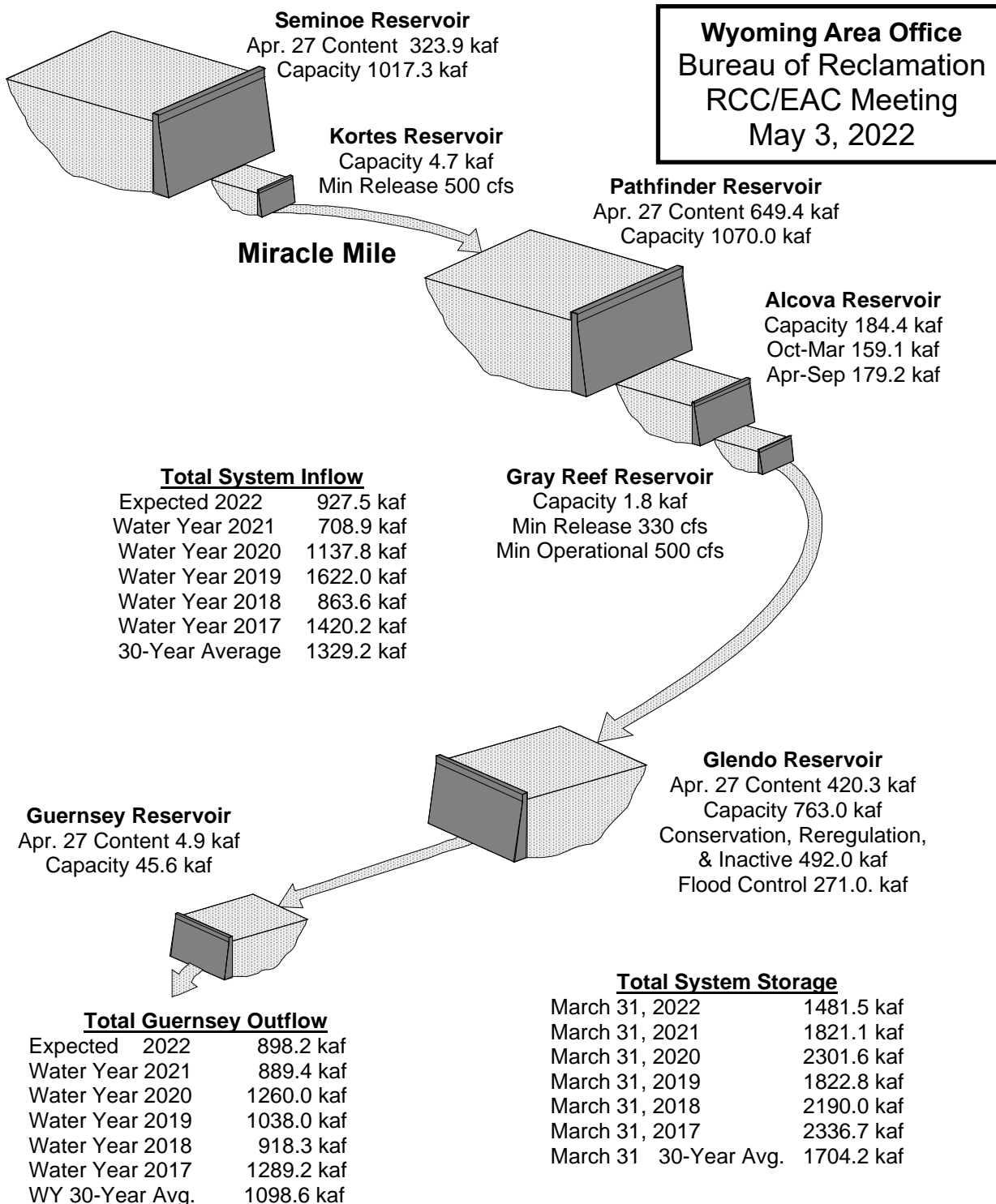


Figure 1. North Platte River System, Seminoe Reservoir to Guernsey Reservoir
Total System Conservation Capacity 2,815.9 kaf

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

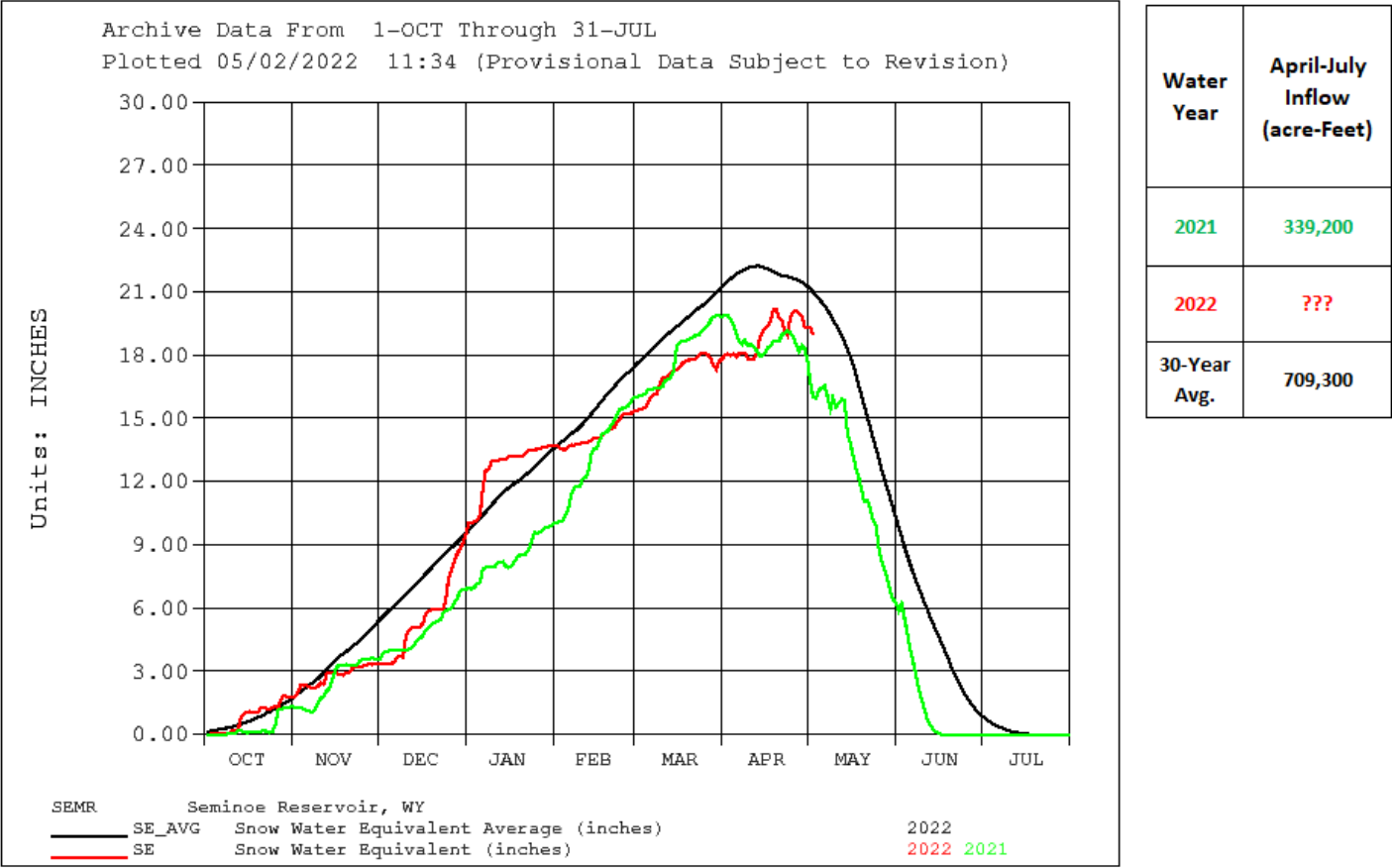


Figure 3. Alcova to Glendo Reach Snow Water Equivalent vs. April – July Inflow

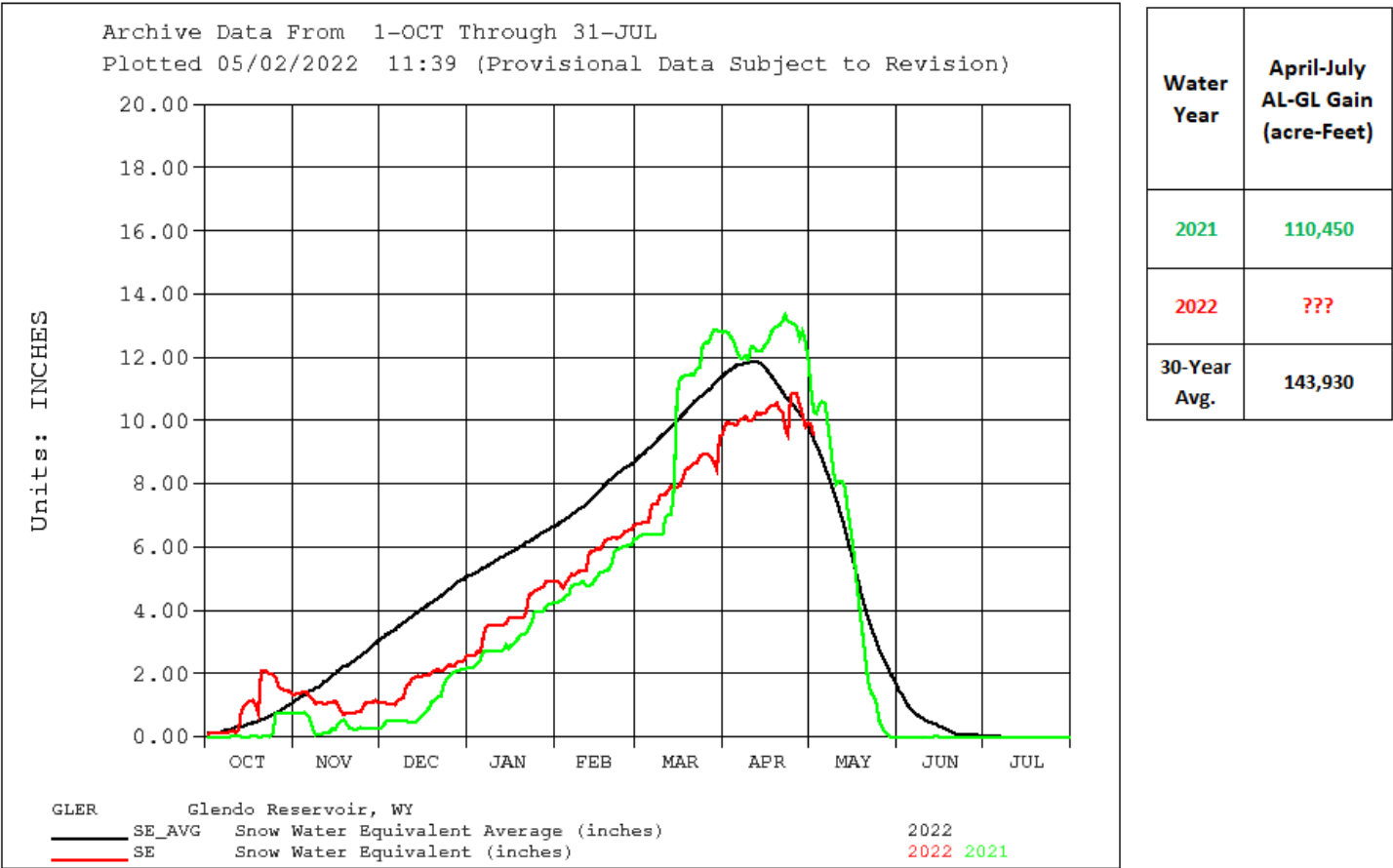


Figure 4. Snow Water Equivalent Percentage by Basin for the State of Wyoming

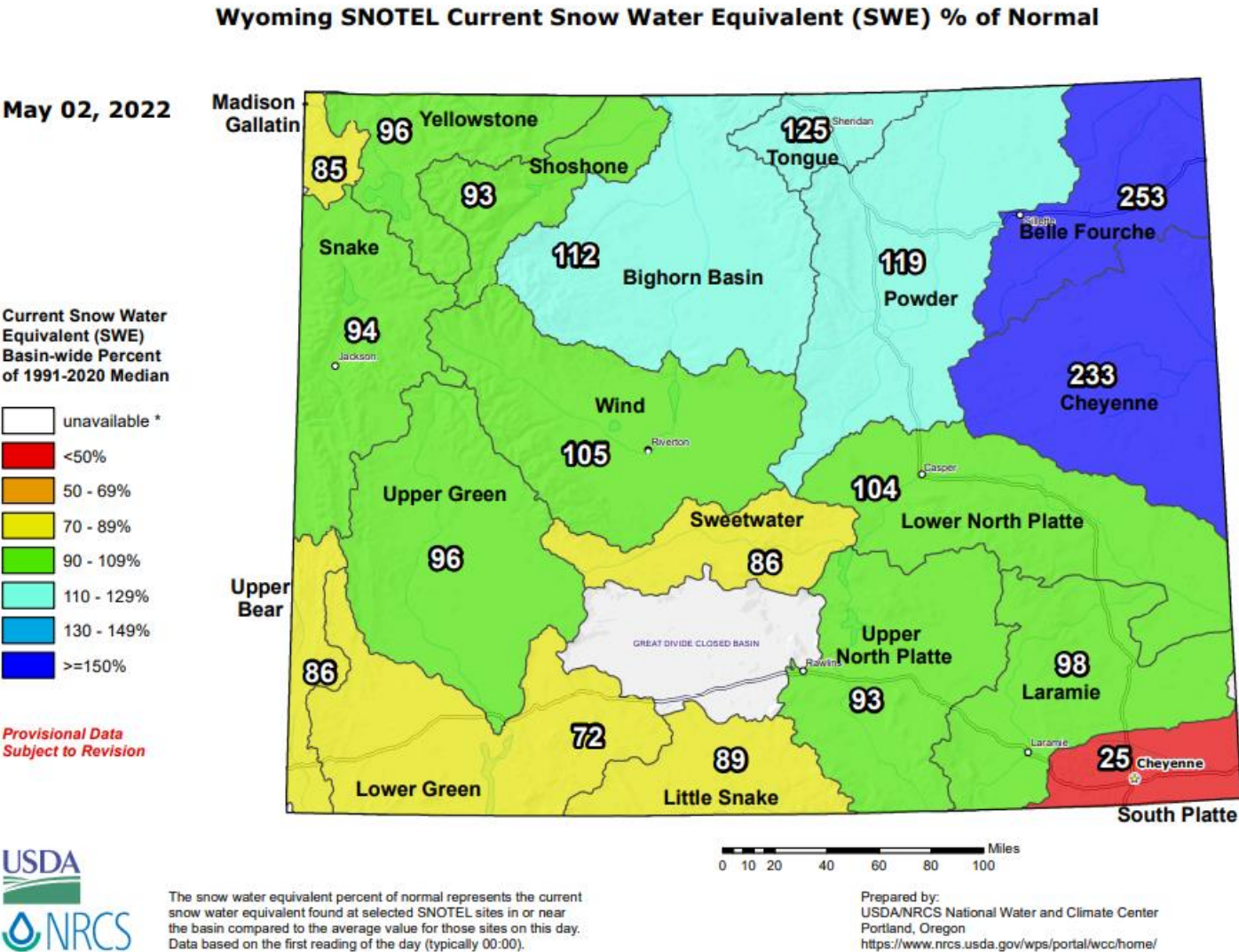


Table 1. North Platte River System Operating Plan - March Update for Water Year 2022

Projected Total System Inflow for Water Year 2022:													1000 x acre-feet
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Reasonable Minimum #	35.5	37.0	29.3	38.9	34.1	70.3	61.9	97.0	60.9	8.9	15.4	23.4	512.6
Most Probable #	35.5	37.0	29.3	38.9	34.1	70.3	116.3	213.8	209.9	64.2	41.3	36.9	927.5
Reasonable Maximum #	35.5	37.0	29.3	38.9	34.1	70.3	160.1	412.5	454.9	164.3	80.6	64.6	1582.1
Water Year 2021	26.0	28.3	27.0	30.9	36.5	70.1	120.0	202.5	102.0	25.7	22.7	17.2	708.9
Average 1992-2021	44.5	44.6	39.5	43.9	46.6	88.2	162.8	340.9	343.4	105.0	35.6	34.0	1329.2
Most Probable % of Avg.	80%	83%	74%	89%	73%	80%	71%	63%	61%	61%	116%	108%	70%

Projected Guernsey Reservoir Outflow for Water Year 2022:													1000 x acre-feet
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Reasonable Minimum #	1.6	1.4	1.1	1.1	1.4	0.7	24.5	3.4	124.5	259.0	176.9	35.8	631.4
Most Probable #	1.6	1.4	1.1	1.1	1.4	0.7	23.2	22.6	167.0	293.3	280.8	104.0	898.2
Reasonable Maximum #	1.6	1.4	1.1	1.1	1.4	0.7	23.9	112.5	157.9	301.0	302.1	134.0	1038.7
Water Year 2021	0.2	0.1	0.1	0.1	0.1	0.2	23.1	143.5	152.9	264.1	266.3	38.6	889.3
Average 1992-2022	2.4	0.4	0.4	0.5	0.6	12.8	48.9	141.7	176.5	310.9	283.0	120.6	1098.7
Most Probable % of Avg.	67%	350%	275%	220%	233%	5%	47%	16%	95%	94%	99%	86%	82%

Projected Total System End-of-Month Storage* for Water Year 2022:													1000 x acre-feet
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Reasonable Minimum #	1299.9	1336.4	1351.5	1386.7	1415.4	1481.4	1512.2	1578.2	1480.1	1189.5	994.2	961.1	
Most Probable #	1299.9	1336.4	1351.5	1386.7	1415.4	1481.4	1567.8	1728.7	1734.7	1461.9	1186.3	1097.6	
Reasonable Maximum #	1299.9	1336.4	1351.5	1386.7	1415.4	1481.4	1540.4	1811.7	2071.0	1887.3	1626.0	1531.0	
Water Year 2021	1642.9	1669.8	1695.0	1719.9	1754.8	1821.1	1902.5	1944.3	1842.7	1574.4	1301.9	1260.5	
Average 1992-2022	1495.6	1537.2	1573.6	1613.4	1655.9	1723.3	1800.6	1968.8	2087.5	1837.9	1558.1	1452.2	
Most Probable % of Avg.	87%	87%	86%	86%	85%	86%	87%	88%	83%	80%	76%	76%	

* includes Kortess Reservoir Content of 4.7 kaf and Gray Reef Reservoir Content of 1.5 kaf

Actual data for Minimum, Most Probable, & Maximum Plans used in the October through January Columns

Table 2. North Platte River Basin Inflow Water Year 2022

(1000 acre-feet)									
	March Inflow			March Historical Inflow			Accumulated Inflow October - March		
Reservoir	W. Yr. 2022	30 Yr. Avg.	% of Avg.	W. Yr. 2021	W. Yr. 2020	W. Yr. 2019	W. Yr. 2022	30 Yr. Avg. ⁵	% of Avg.
Seminole	44.9	57.2	78	42.2	57.5	40.2	169.7	193.1	88
Pathfinder ^{1, 2}	7.4	11.5	65	4.9	7.9	11.5	10.1	37.8	27
Glendo ³	16.6	17.7	93	20.8	23.4	14.6	57.6	66.5	87
Guernsey ⁴	1.4	1.7	83	2.2	2.2	1.7	7.7	9.8	78
System Total	70.3	88.2	80	70.1	91.0	68.0	245.1	307.3	80

1 It is assumed that there is no gain between Seminole and Kortess Dams.

2 River gain between Kortess and Pathfinder Dams.

3 River gain between Pathfinder and Glendo Dams.

4 River gain between Glendo and Guernsey Dams.

5 30 year average. (1992-2021)