

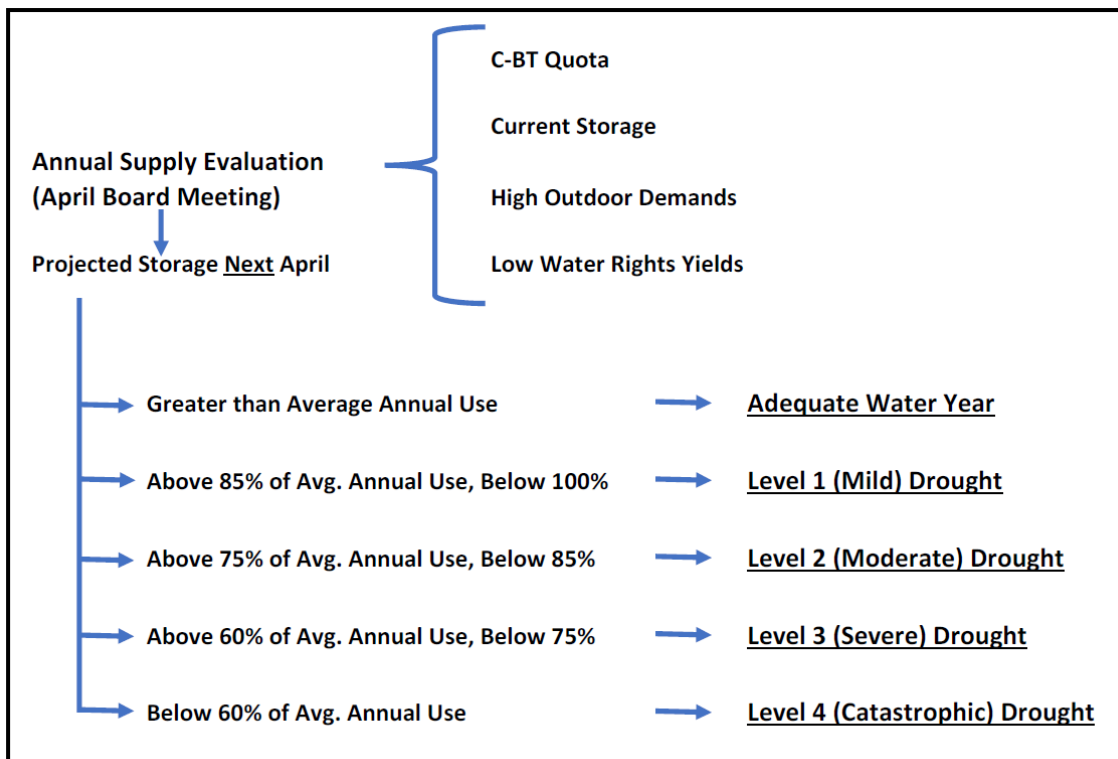


MEMORANDUM

TO: Sean Chambers, Water and Sewer Director
FROM: Jen Petrzeka, Water Resources Operations Manager
DATE: April 20, 2022
RE: April 2022 Water Supply Update and Adequacy Determination

ISSUE

In accordance with the Drought Emergency Plan, staff will report the water supply status to the Greeley Water and Sewer Board ("Board") in April, July and November of each year. Previous modeling analysis has shown that the amount of water needed in storage to supply the citizens of Greeley for 12 months is approximately 21,300 acre-feet. When this target storage level is met, the Board can declare an "adequate water year" with normal watering restrictions. The following graphic illustrates the process for determining the projected target storage volume for April 2023.



BACKGROUND

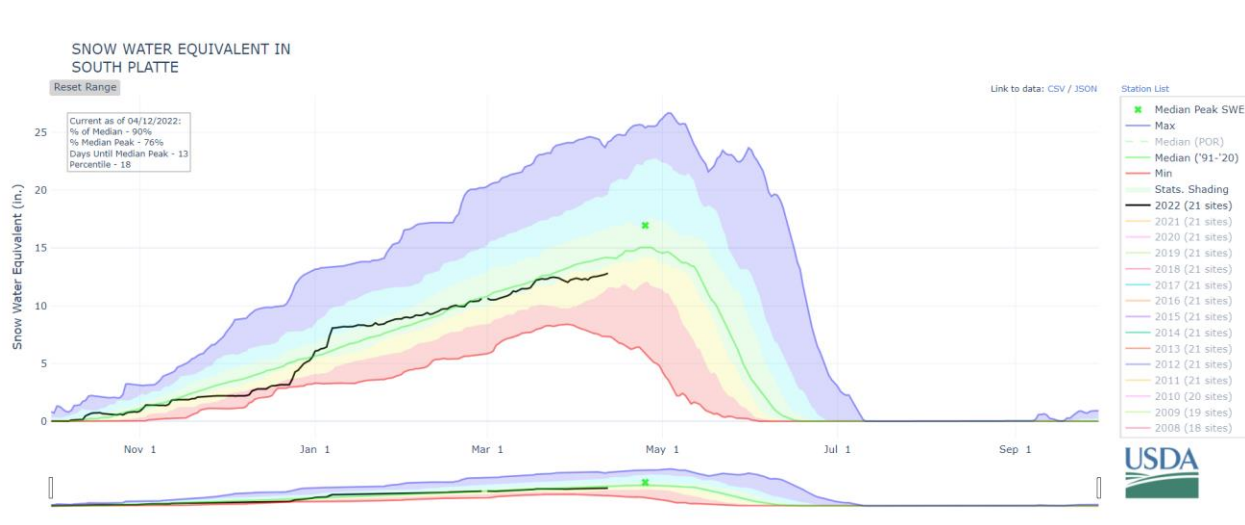
The beginning of water year 2022 experienced below average snowpack levels until early January when we saw a series of storms that brought the snowpack to slightly above average.

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Precipitation events kept our snowpack at around average until early to mid April when warmer weather caused a decent amount of melt. As of April 12, the South Platte River basin is at 90% of average and the Colorado River basin is at 94% of average. Water supply conditions are slightly below normal as indicated by a Colorado SWSI¹ value of -0.67 for the South Platte basin, however reservoir storage in the South Platte basin is at 111% of average. Streamflows are expected to be slightly below average for the Cache la Poudre, Big Thompson and Colorado River basins at 93%, 92%, and 87% of average, respectively ('Northern Water Streamflow Forecasts').

In November 2021, much of Colorado was in a moderate to severe drought with a part of northeast Colorado in extreme drought. Conditions have improved slightly with most of the state in abnormally dry to moderate drought. The 3 month temperature and precipitation forecasts show above average temperatures and below average precipitation indicating moderate drought conditions will likely continue.



The Greeley System Storage Analysis table for Water Year 2022 shows the April 2023 storage levels will be approximately 31,994 acre-feet (table on following page). This is after collateralizing 4,100 acre-feet of C-BT for Windy Gap operations in the Northern system and a xx% CBT quota that which was declared at Northern's April Board meeting to satisfy demand for 2022. The WY2022 projections for the Greeley Loveland Irrigation system are based on dry year yields.

Wildfire potential is projected to be high and we expect impacts to continue from the Cameron Peak burn scar. Therefore, we also have reserved 2,000 acre-feet of CBT to replace Poudre directs in anticipation that water quality from the fire will prevent treatment of directs approximately 50% of the irrigation season. Similar to 2021, we are also finalizing an agreement with a local ditch company to trade our directs for C-BT they have stored in Horsetooth Reservoir when we cannot treat river water.

¹ The Surface Water Supply Index (SWSI) was developed by the Colorado Division of Water Resources and the U.S.D.A Natural Resources Conservation Service (NRCS). This is an indicator of mountain-based water supply conditions for the major river basins in Colorado. It is based on streamflow, reservoir storage, and precipitation. The SWSI scale goes from -4 (severe drought) to +4 (abundant supply) with 0 being near normal supply.

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April 1, 2022 Storage (acre-feet)	
CBT	19,664
Windy Gap	756
GLIC	18,520
Tunnel	518
Total	39,458
Demands (April 1, 2022-March 31, 2023) (acre-feet)	
CBT	12,272
Windy Gap	3,883
GLIC	10,435
Tunnel	1,141
Total	27,730
Yields through April 2023 (acre-feet)	
CBT (Nov. 2022-April 1, 2022)	11,402
Windy Gap	3,450
GLIC	8,767
Tunnel	647
Total	24,266
April 2023 Storage by Source	
CBT	18,794
Windy Gap	324
GLIC	12,852
Tunnel	23
April 2023 Storage	31,994
Target Storage Volume	21,300

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RECOMMENDATION

The projection for the April 1, 2023 storage volume exceeds the target storage volume. Staff recommends the Board declare an adequate water year and that supplies be made available for immediate rental to agriculture while assuring target storage does not fall below 21,300 acre-feet.

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