

**Utilities**

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DATE: June 7, 2021

TO: Water Commission

FROM: Susan Smolnik, P.E., Water Resources Engineer
Donnie Dustin, P.E., Water Resources Manager

RE: **May 2021 Water Resources Division Staff Report**

Purpose

This memorandum is intended to update the Water Commission on water resource conditions for the City of Fort Collins Water Utility (Water Utility) over the month of May and provide updated future outlook information.

Water Resources Summary**Supply and Demand Projections for the remainder of WY2021**

- Water Supply- The supply outlook continues to improve. The Water Treatment Facility is treating Poudre River water at flow rates exceeding projections. There have only been limited water quality events of short duration that have impacted river diversions. Lower demands have also improved the supply outlook by reducing the diversions of City storage supplies in Horsetooth Reservoir.
- Water Demand- Demands for the month of May were below normal due to significant rainfall. It is expected that demands will increase in the upcoming weeks. Please refer to the attached graphs and tables. Water demands within the Water Utility service area for the month:
 - Water demand for May: 81.9% of the projected demand.
 - Water demand for calendar year: 93.7% of the projected demand.

Weather: <https://climate.colostate.edu/>

The conditions measured at the Fort Collins weather station for May:

- Mean daily high temperature recorded for the month: 68.5 °F.
 - Long term average daily high temperature for the month is: 69.3°F.
- Total recorded monthly precipitation: 5.52 inches.
 - Long term average precipitation for the month: 2.75 inches.

Reservoir Storage: (See attached sheet from Northern Water)

- Colorado-Big Thompson project reservoirs (Granby, Carter, and Horsetooth): 82% full
- Horsetooth Reservoir: 98% full.
- Joe Wright Reservoir: 83% full (104% of average based on 13 years of data).

Poudre River flow: Graphical data for the Poudre River is available on-line

- Cache La Poudre River at the Canyon Mouth
<https://dwr.state.co.us/Tools/Stations/CLAFTCCO?params=DISCHRG>
- Cache La Poudre River at Fort Collins
<https://dwr.state.co.us/Tools/Stations/CLAFORCO?params=DISCHRG>

Drought Monitors:

- Larimer County and Colorado https://climate.colostate.edu/drought_info.html
Larimer County is no longer in a drought due to the rainfall events of April and May
- Colorado and the USA <https://droughtmonitor.unl.edu/>
The Colorado River basin remains in high levels of drought.

Climate Outlook: <https://www.cpc.ncep.noaa.gov/>

National Oceanic and Atmospheric Administration (NOAA) climate outlooks for the northern Front Range and northern mountains, over the next three months:

- Below normal precipitation.
- Above normal temperature.

Other Water Supply Considerations:

- Utilities staff continues to monitor the impacts to the Poudre River basin from the Cameron Peak fire and impacts to the Upper Colorado River basin from the Troublesome fire.
- The Colorado River basin remains in significant drought. The lack of winter snow is translating into below average streamflows and reservoir storage levels. For this water year, the City has sufficient Colorado River supplies already delivered and available in Horsetooth Reservoir.
- Given the uncertain conditions in both our main water supply sources, Utilities declared a voluntary Water Shortage Watch Level of restrictions which started April 29.

City of Fort Collins Utilities

ASSUMPTIONS

- Values look at remaining demands and supplies through the end of the Water Year (Oct 31)

DEMANDS (treated only)

- Average Demand is projected demand
- Low Demand is projected Average Demand reduced by 10%
- High Demand applies a monthly worse case factor to projected Average Demand

SUPPLIES

Poudre

- High Supply is a fire impacted Poudre that is 62% of the annual average. Monthly percentages of average are Nov-Mar 95%, Apr 85%, May-Jun 5%, Jul 25%, Aug 60%, Sep 70%, Oct 80%. Medium Supply is 95% of the fire impacted Poudre (or 59% of annual average) and Low Supply is 90% (or 56% of annual average).

Horsetooth Reservoir

- Horsetooth Supplies include CBT, NPIC MU & Windy Gap
- CBT supply is 70% quota, 2.50 NPIC MU allocation/share
- All remaining Horsetooth raw water obligations have been deducted. A 1,500 AF exchange of Joe Wright water for CBT is included.

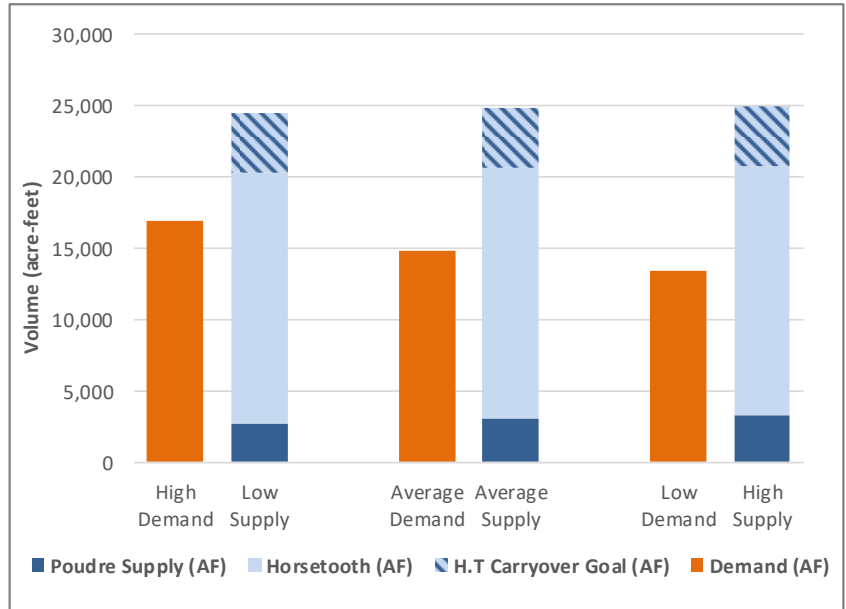
Horsetooth Carryover Objective

- Amount from this years Horsetooth supplies to carryover for next year
- Max amount allowable is 4,190 AF before 10% shrink

NOTES:

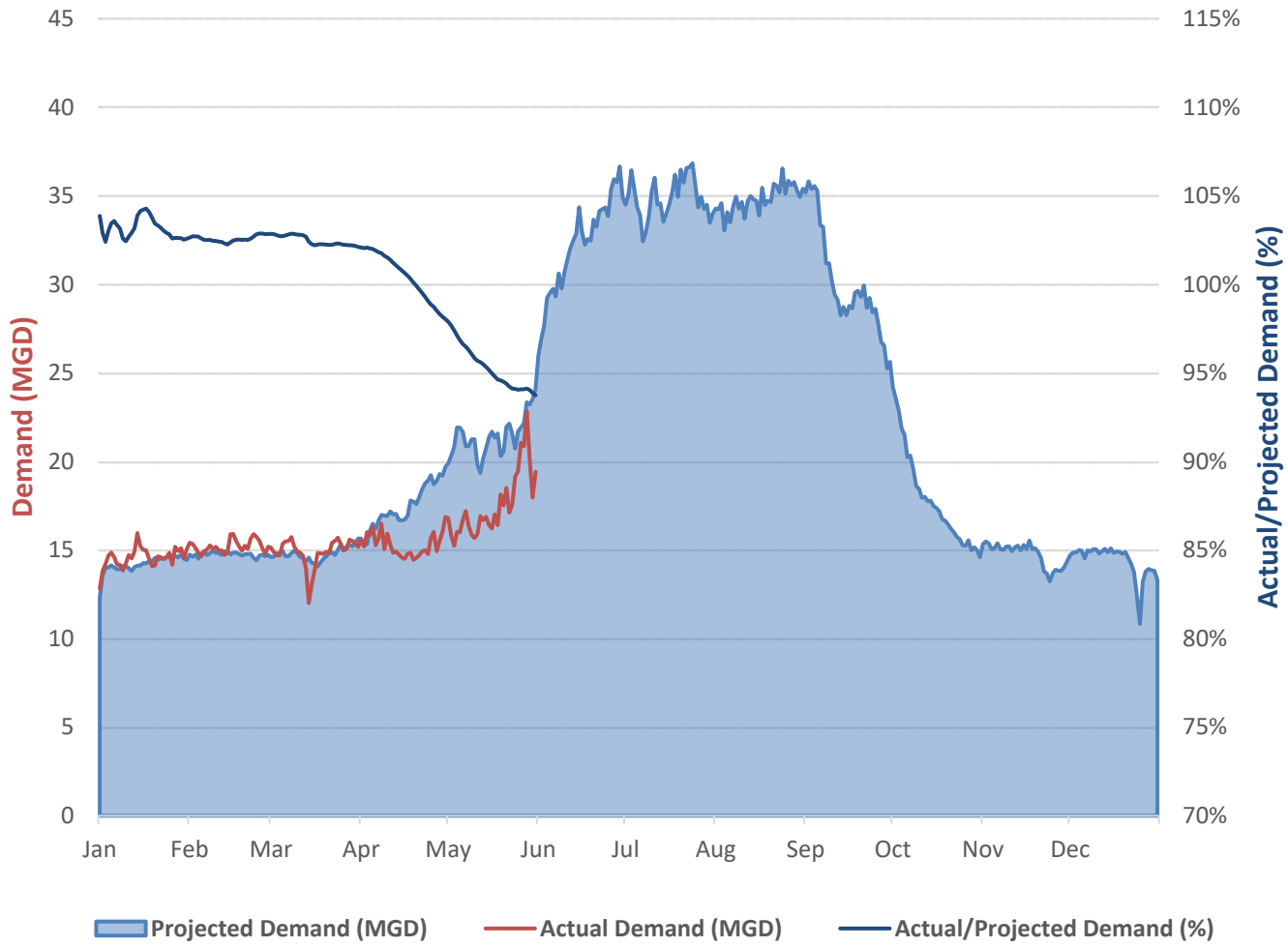
MGD = million gallons per day; PVP = Pleasant Valley Pipeline; CBT = Colorado-Big Thompson Project; NPIC = North Poudre Irrigation Company; MU = Multiple Use (NPIC allocation of CBT water, measured in acre-feet per share); AF = acre-feet

Remaining Water Demand and Supply from Jun 06 - Oct 31, 2021



Scenario	Demand (AF)	Poudre Supply (AF)	Horsetooth (AF)	H.T Carryover Goal (AF)
High Demand Low Supply	16,911	2,778	17,541	4,190
Average Demand Average Supply	14,861	3,087	17,541	4,190
Low Demand High Supply	13,437	3,249	17,541	4,190

2021 Fort Collins Utilities Treated Water Demands

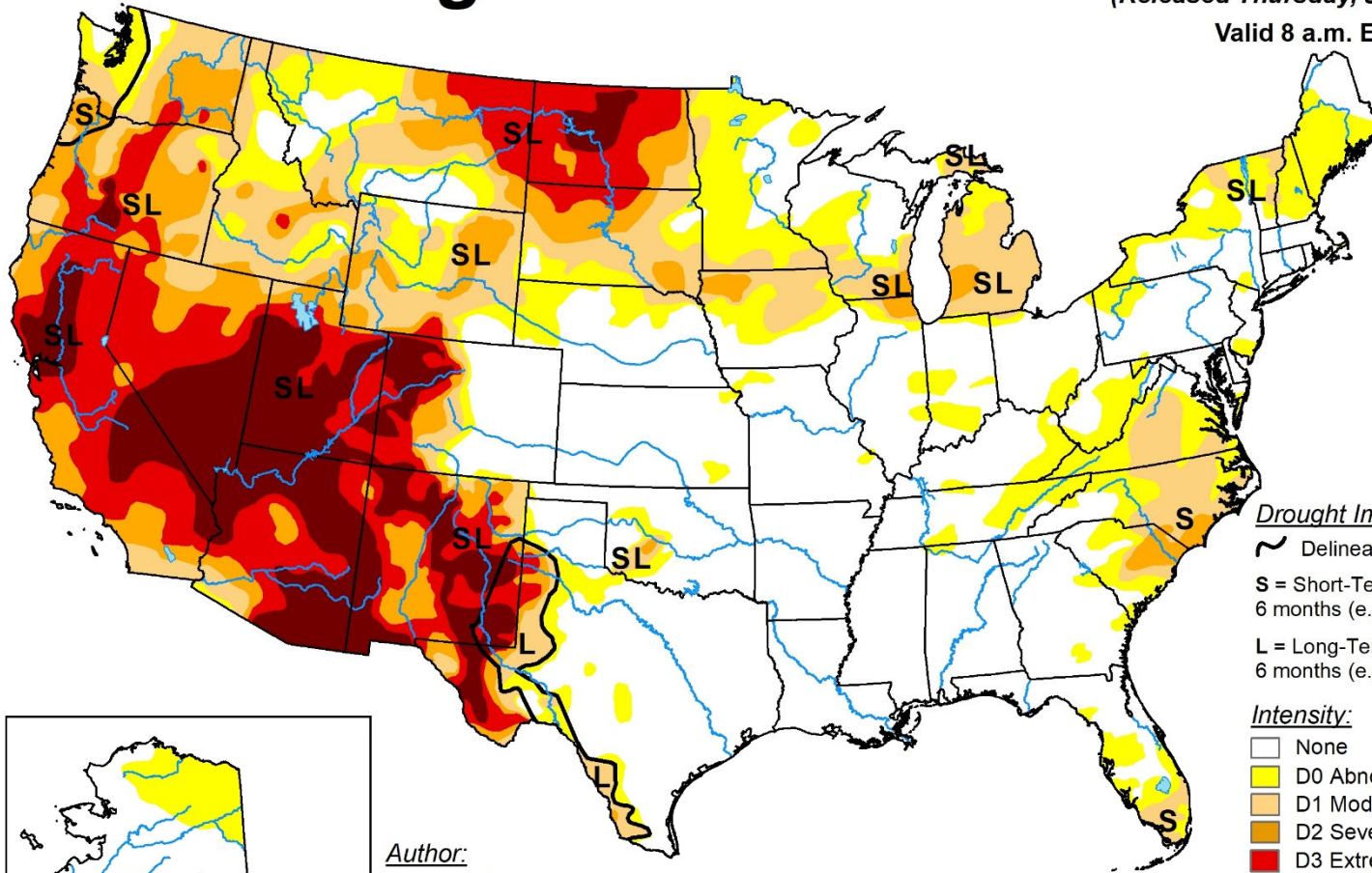


U.S. Drought Monitor

June 1, 2021

(Released Thursday, Jun. 3, 2021)

Valid 8 a.m. EDT

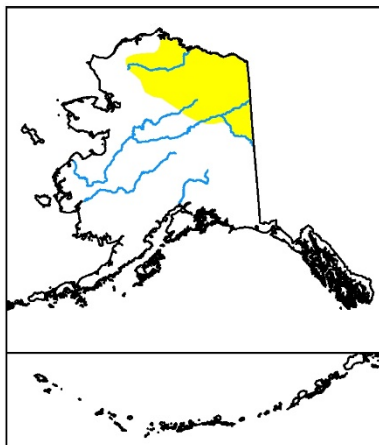


Drought Impact Types:

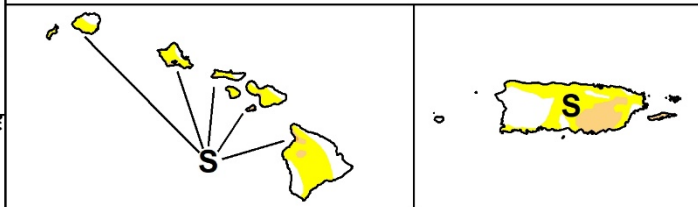
- Delineates dominant impacts
- S** = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L** = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought



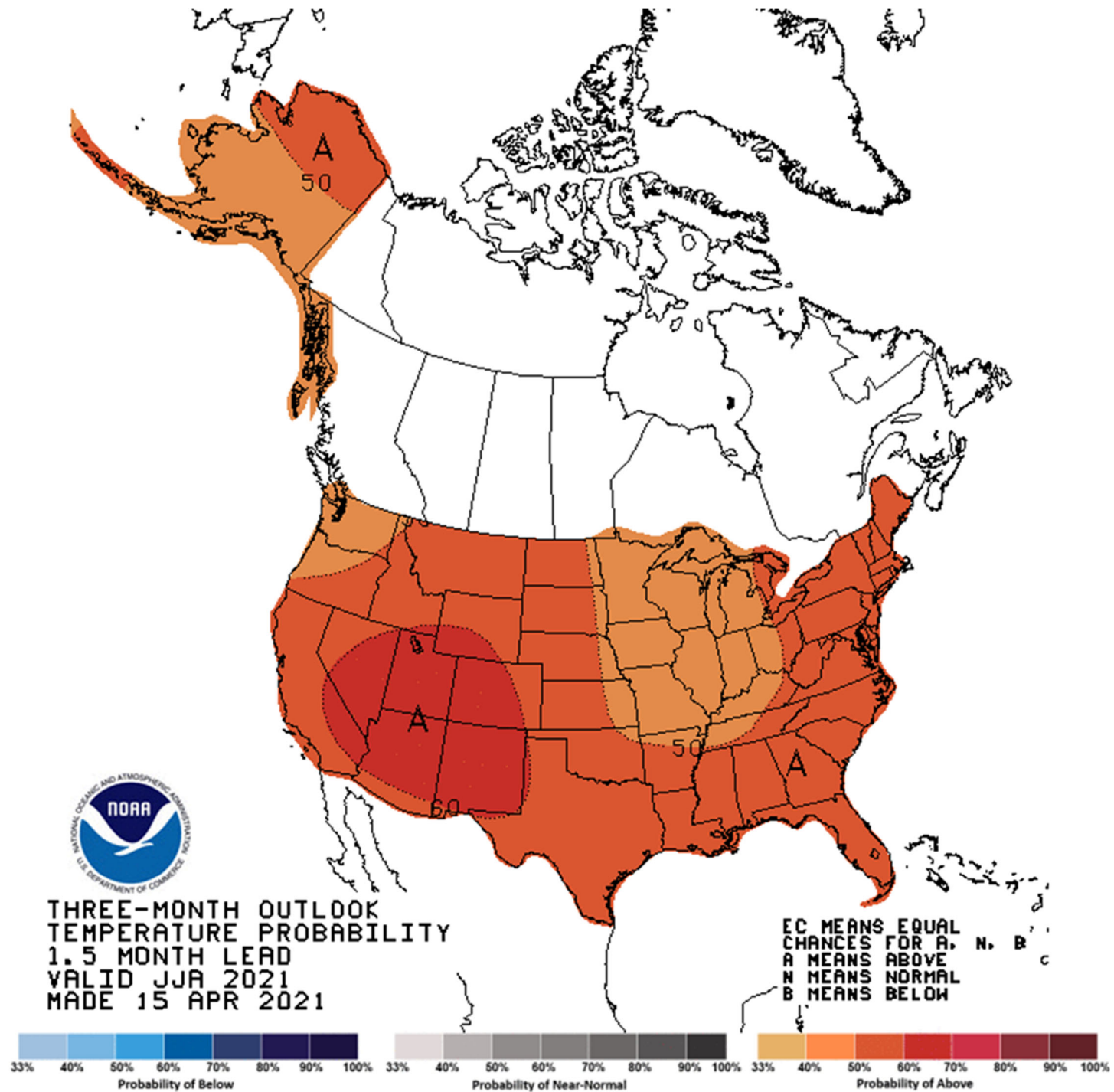
Author:
 Brian Fuchs
 National Drought Mitigation Center

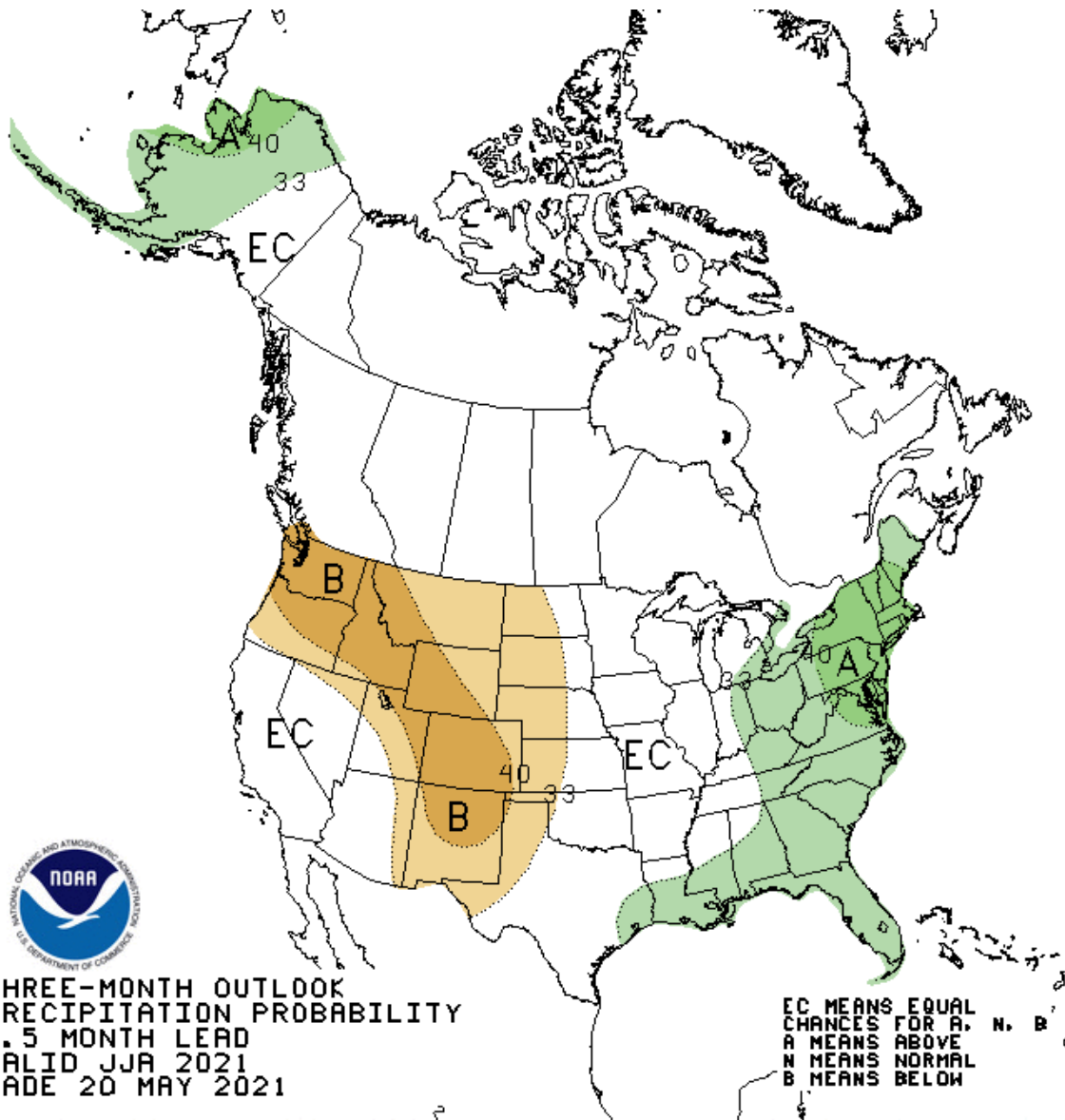


The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>



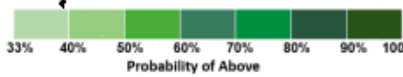
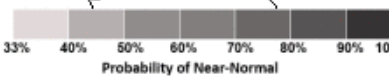
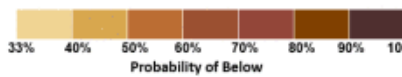
droughtmonitor.unl.edu





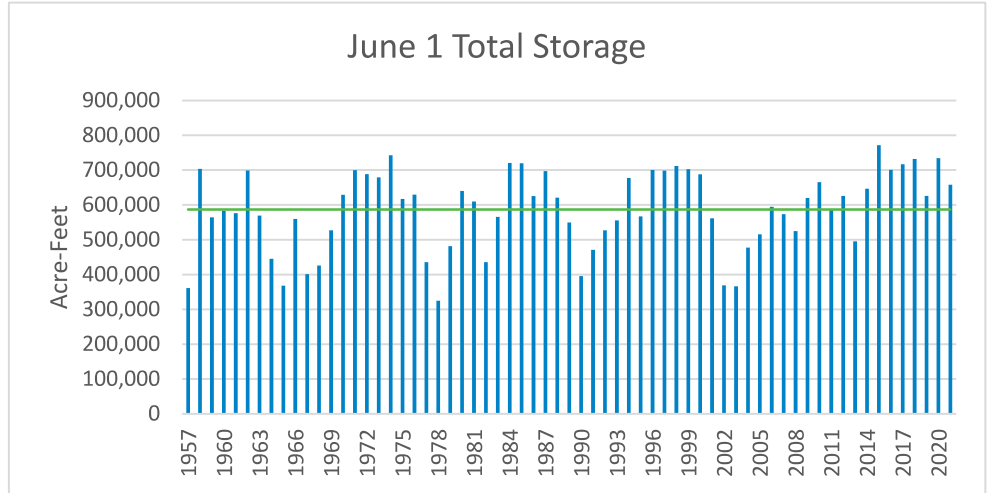
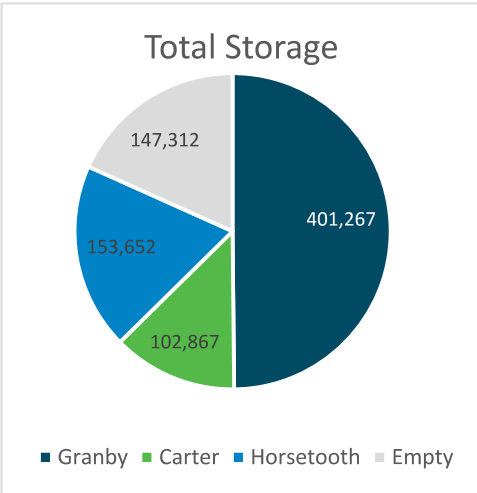
THREE-MONTH OUTLOOK
 PRECIPITATION PROBABILITY
 0.5 MONTH LEAD
 VALID JJA 2021
 MADE 20 MAY 2021

EC MEANS EQUAL
 CHANCES FOR A, N, B
 A MEANS ABOVE
 N MEANS NORMAL
 B MEANS BELOW

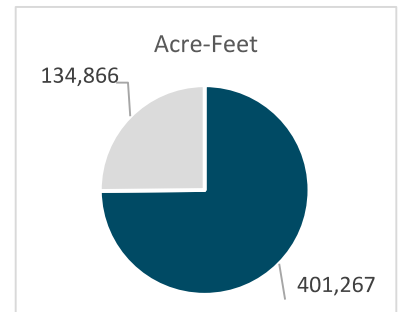
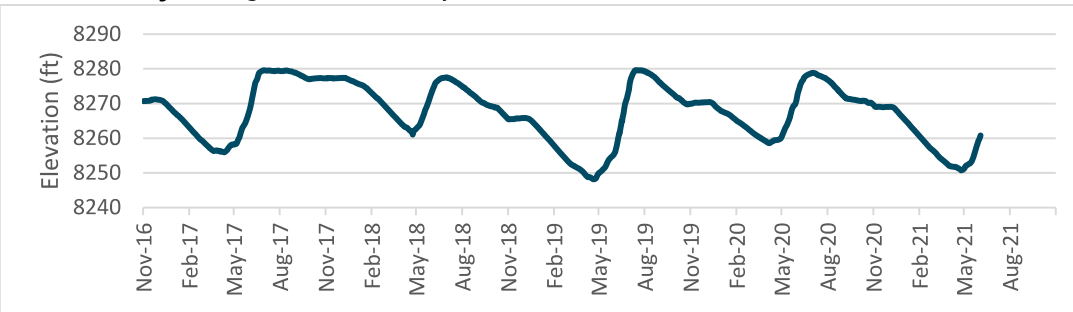


C-BT Project Storage

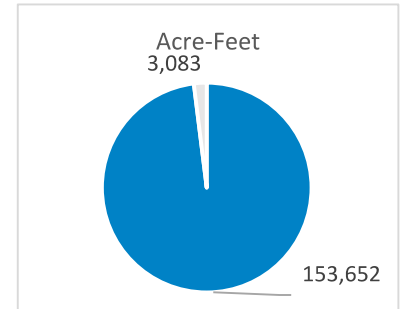
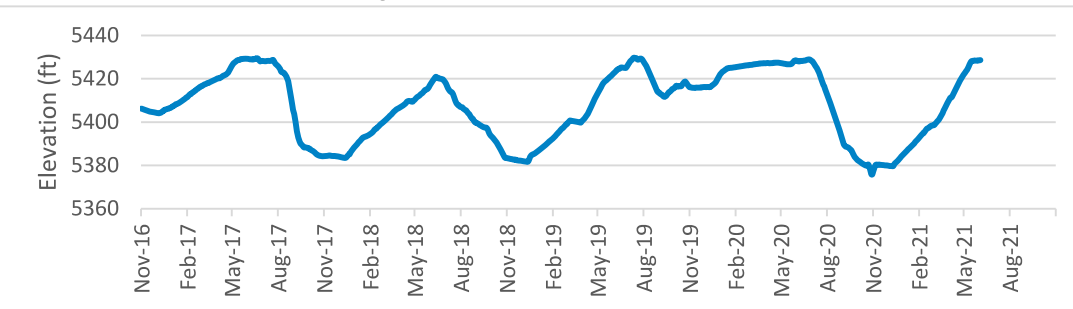
June 1, 2021



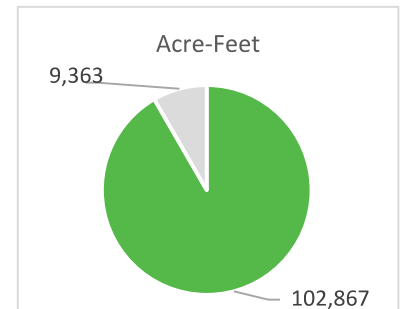
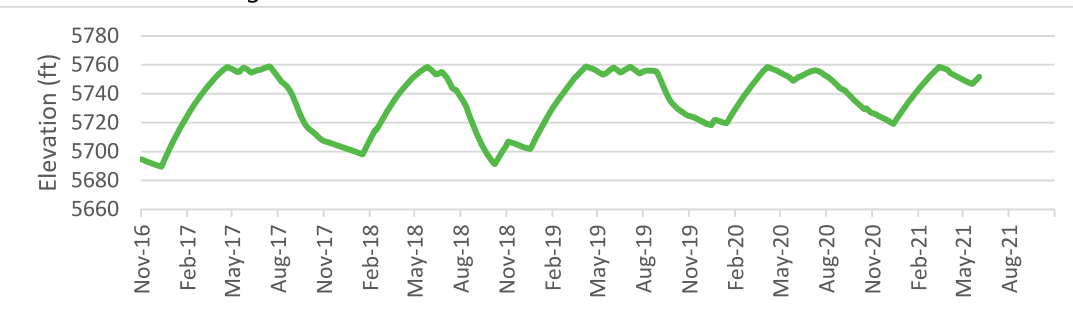
Lake Granby Storage in Lake Granby increased 51,877 acre-feet last month



Horsetooth Reservoir Storage in Horsetooth Reservoir increased 13,440 acre-feet last month



Carter Lake Storage in Carter Lake increased 898 acre-feet last month

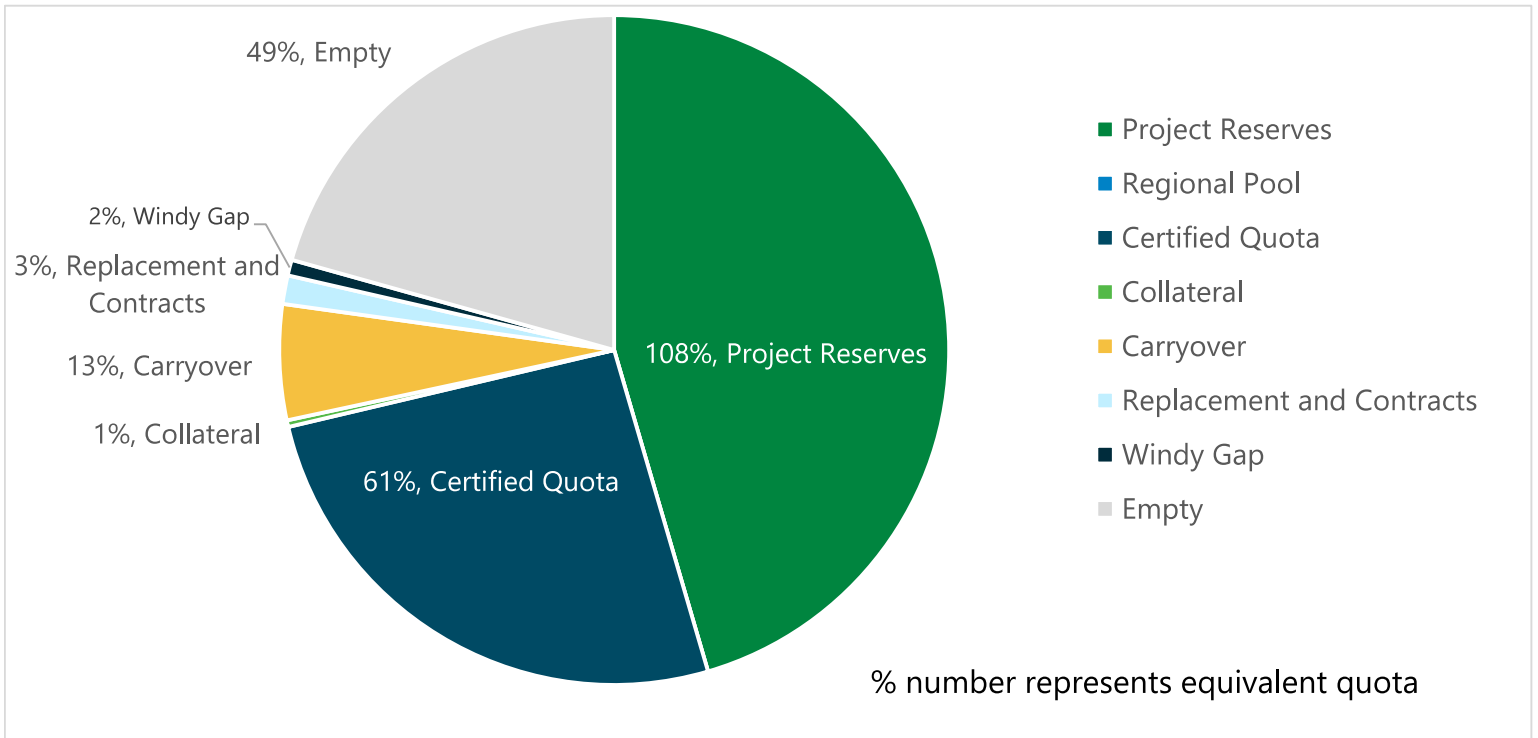


C-BT Project Allocated Water

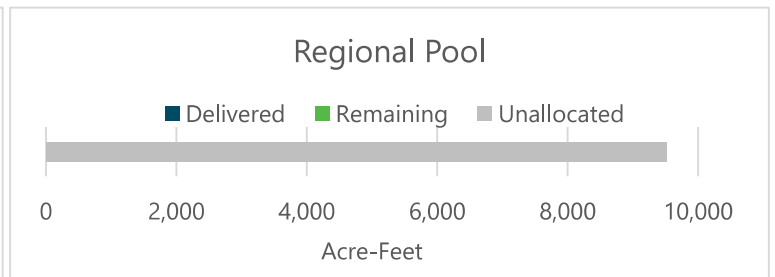
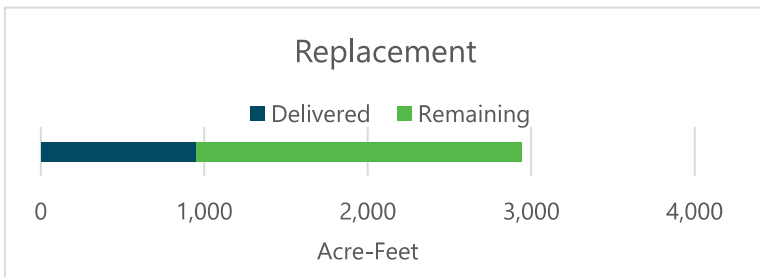
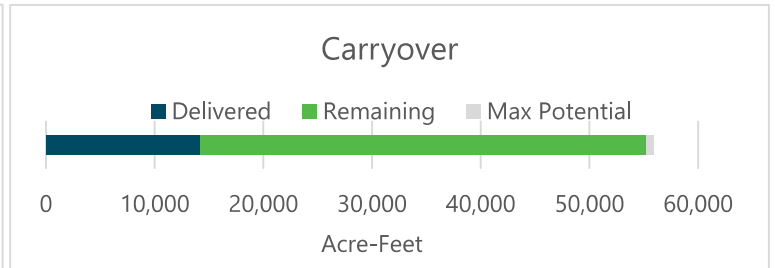
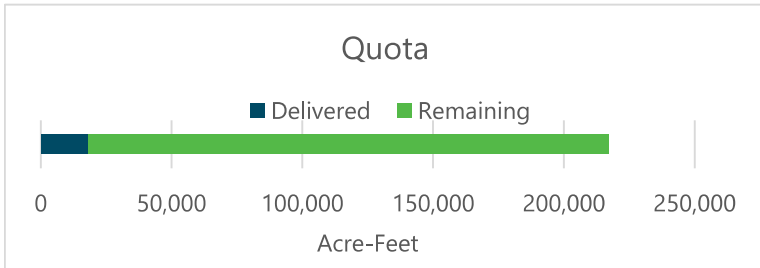
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C-BT Active Storage



C-BT Delivery Obligations

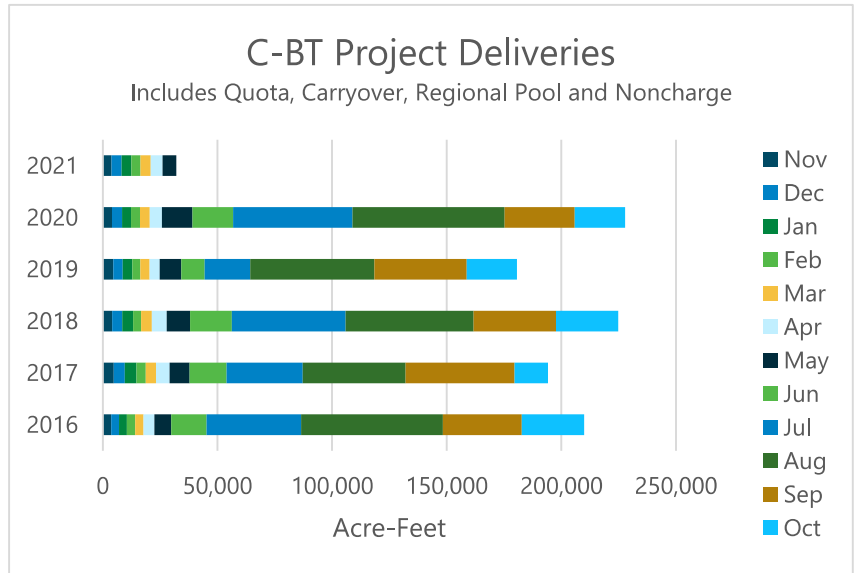
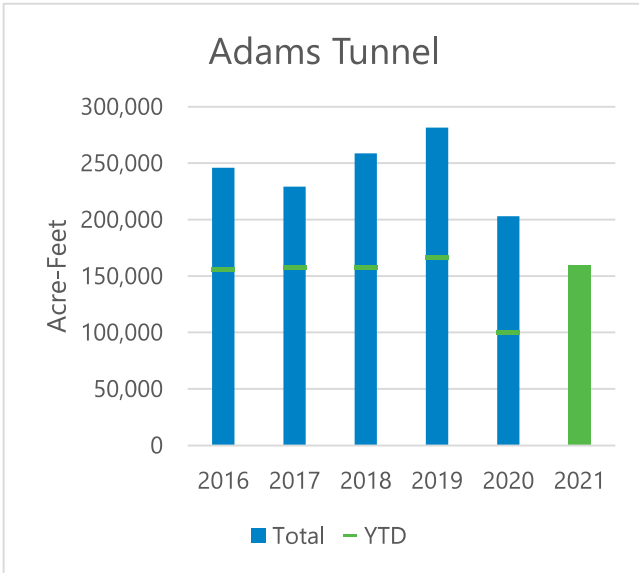


Notes:

- 1) Quota set at 70%
- 2) Carryover - Entites certified 55,240.5 Acre-Feet of Carryover for WY2021.
- 3) Regional Pool - Additional water acrued to the Regional Pool on April 30, 2021. There is 9,510.3 Acre-Feet in the Regional Pool for WY 2021.

C-BT Project Deliveries

June 1, 2021



Deliveries by Area

Deliveries by Use

