

**Utilities**

electric · stormwater · wastewater · water

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DATE: August 10, 2022

TO: Water Commission

FROM: Michael Neale, MSc, Water Resources Engineer

RE: **July 2022 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 July and provide updated future outlook information. For additional information, please refer to the City's website:

<https://www.fcgov.com/utilities/water-status>

Water Resources Summary**Supply and Demand Projections for the remainder of WY2022**

- Water Supply – During the month of July, water supply consisted of 64% from Horsetooth, and 36% from the Poudre River, including 8% of which diverted via the Pleasant Valley Pipeline. See supply and demand outlook attached.
- Water Demand – Demands within the Water Utility service area for the month of July were slightly below projected. Please refer to the attached graphs and tables. Generous precipitation during the month likely influenced lower irrigation demands within the service area.
 - Water demand for July was 93% of the projected demand.
 - Water demand for calendar year is 98% of the projected demand.

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

Measured at the Fort Collins weather station 053005 along with average normals from 1991-2020:

- Mean daily high temperature recorded for the month: 89.8 °F.
 - 30-year average daily high temperature for the month is: 87.4 °F.
- Total recorded monthly precipitation: 3.84 inches.
 - 30-year average precipitation for the month: 1.63 inches.

Reservoir Storage: As of August 1st and presented in the Northern District Storage and Delivery Report:

- Colorado-Big Thompson project reservoirs (Granby, Carter, and Horsetooth): 91% full.
- Horsetooth Reservoir: 79% full.
- Joe Wright Reservoir: 99% full (101% of average for the month based on 14 years of data).

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

- 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
Most of Larimer County is under no drought conditions. Western end of the County and the rest of the state is experiencing abnormally dry to severe drought conditions.
- Colorado and the USA <https://droughtmonitor.unl.edu/>
The Colorado River basin remains in a 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:

- Leaning below normal precipitation
- Likely above normal temperature.

Other Water Supply Considerations:

- For a few days in July, our water treatment facility was forced to reduce and/or close intake from the Poudre River due to prolonged high turbidity levels. This is due to rain runoff over burn areas in the Poudre watershed.
- Horsetooth supplies are more than sufficient to fulfill demands through the water year and beyond, including a maximum CBT carryover for use in 2023.
- Water Resources Division is attentive of Colorado River drought management policy and maintains communication with Northern Water on potential implications for the CBT system.

City of Fort Collins Utilities

ASSUMPTIONS

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

DEMANDS

- Projected demand based on GPCD and population estimates
- Low demand is projected demand reduced by 10%
- High demand applies a monthly worse case factor to projected demand

SUPPLIES

Poudre

- Poudre Supply is a fire impacted Poudre that is approximately 60% of the annual average. Monthly percentages of average are Nov-Jan 95%, Feb 0%, Mar 95%, Apr 85%, May-Jun 40%, Jul 30%, Aug 25%, Sep 70%, Oct 80%.

Horsetooth Reservoir

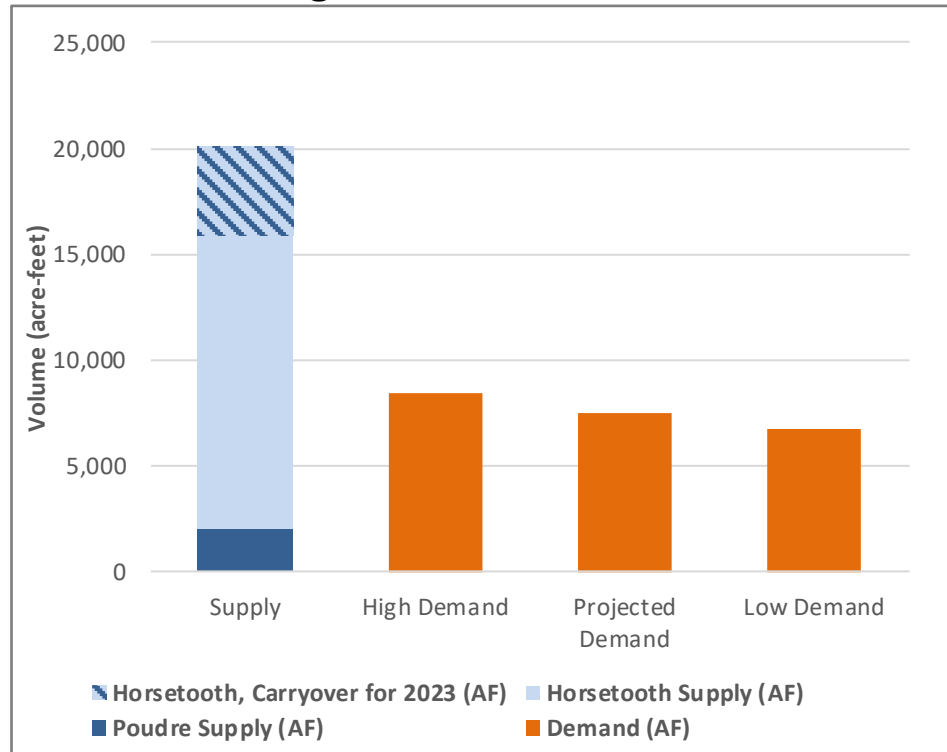
- Horsetooth Supplies include CBT, NPIC MU, Windy Gap
- CBT supply: 80% quota, 2.75 AF NPIC MU allocation/share
- A 1,500 AF Joe Wright-CBT exchange with NPIC
- Windy Gap supply: 2,750 AF expected from PRPA

All remaining Horsetooth raw water CBT obligations have been deducted.

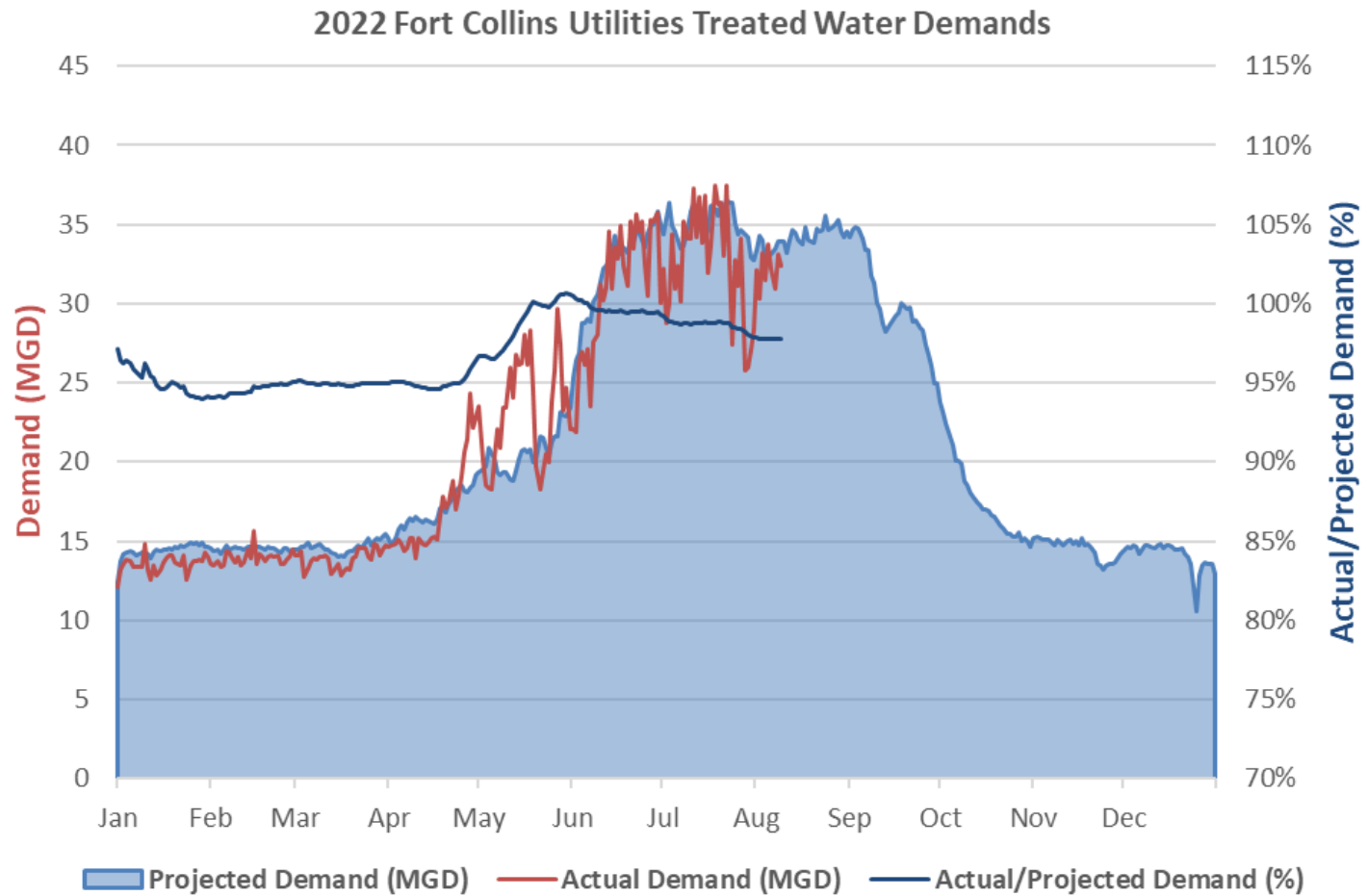
Horsetooth Carryover Objective

- Max amount allowable is 4,190 AF before 10% shrink

Remaining Water Demand and Supply from August 10 - October 31, 2022



Scenario	Demand (AF)	Poudre Supply (AF)	Horsetooth Supply (AF)	Horsetooth, Carryover for 2023 (AF)
Supply	--	2,084	13,779	4,190
High Demand	8,420	--	--	--
Projected Demand	7,457	--	--	--
Low Demand	6,748	--	--	--

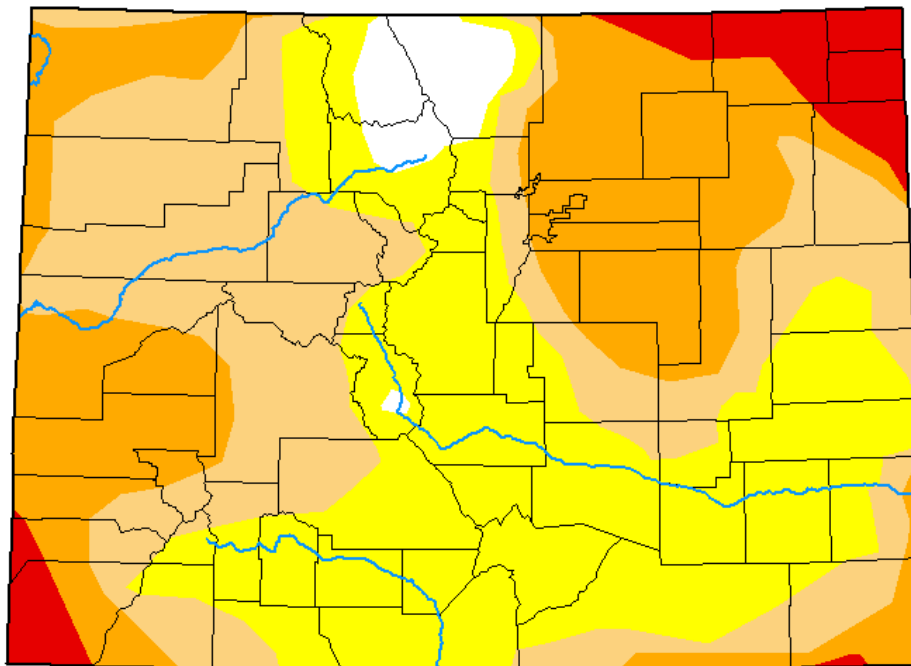


**City of Fort Collins Utilities
Treated Water Monthly Summary
2022**







	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
WTF Water Supply (MG)													
From Poudre	161.6	0.0	190.8	293.2	122.3	288.4	431.0						1,487.3
From Horsetooth	289.9	433.3	306.1	297.1	696.5	785.3	756.4						3,564.6
Total Raw Water	451.5	433.3	496.8	590.3	818.8	1,073.8	1,187.3						5,051.9
Demands (MG)													
WTF Production	436.0	415.4	468.3	557.2	780.5	1,025.9	1,134.5						4,817.7
Change in Storage	-1.6	-1.0	4.0	4.7	-0.2	0.5	0.7						7.0
Demand on WTF	437.6	416.4	464.4	552.5	780.7	1,025.4	1,133.8						4,810.8
From Soldier Canyon	21.8	7.1	14.4	48.7	174.5	307.9	348.5						922.9
To Soldier Canyon	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0
To FC-Lov/NWCWD	-39.6	-33.2	-48.4	-96.0	-235.9	-407.7	-469.8						-1,330.6
For City	419.8	390.3	430.4	505.3	719.3	925.6	1,012.4						4,403.1
Daily Deliveries to City (MG)													
Max During Month	14.8	15.7	14.8	24.3	29.7	35.7	37.4						37.4
Min During Month	12.1	13.4	12.7	13.9	18.2	21.9	25.8						12.1
Avg During Month	13.5	13.9	13.9	16.8	23.2	30.9	32.7						20.7
Monthly Deliveries (Ac-Ft)													
Projected	1,369	1,247	1,392	1,551	1,961	2,959	3,329	3,251	2,760	1,685	1,338	1,339	24,181
Actual	1,288	1,198	1,321	1,551	2,208	2,841	3,107						13,513
Ratio	94%	96%	95%	100%	113%	96%	93%						56%
Year to Date Deliveries (Ac-Ft)													
Projected	1,369	2,616	4,008	5,559	7,520	10,479	13,808	17,058	19,819	21,503	22,842	24,181	24,181
Actual	1,288	2,486	3,807	5,358	7,565	10,406	13,513						13,513
Ratio	94%	95%	95%	96%	101%	99%	98%						56%

U.S. Drought Monitor
Colorado

August 2, 2022
(Released Thursday, Aug. 4, 2022)
Valid 8 a.m. EDT



Intensity:

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

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

Author:

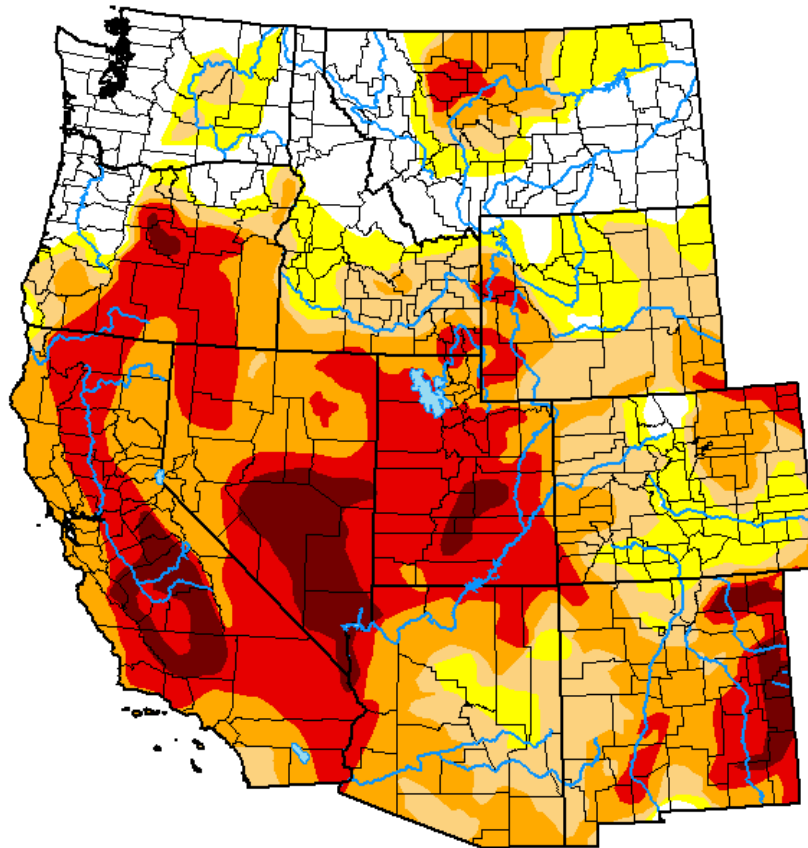
Curtis Riganti
National Drought Mitigation Center









droughtmonitor.unl.edu

U.S. Drought Monitor West

August 2, 2022
(Released Thursday, Aug. 4, 2022)
Valid 8 a.m. EDT



Intensity:

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

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Author:

Curtis Riganti
National Drought Mitigation Center



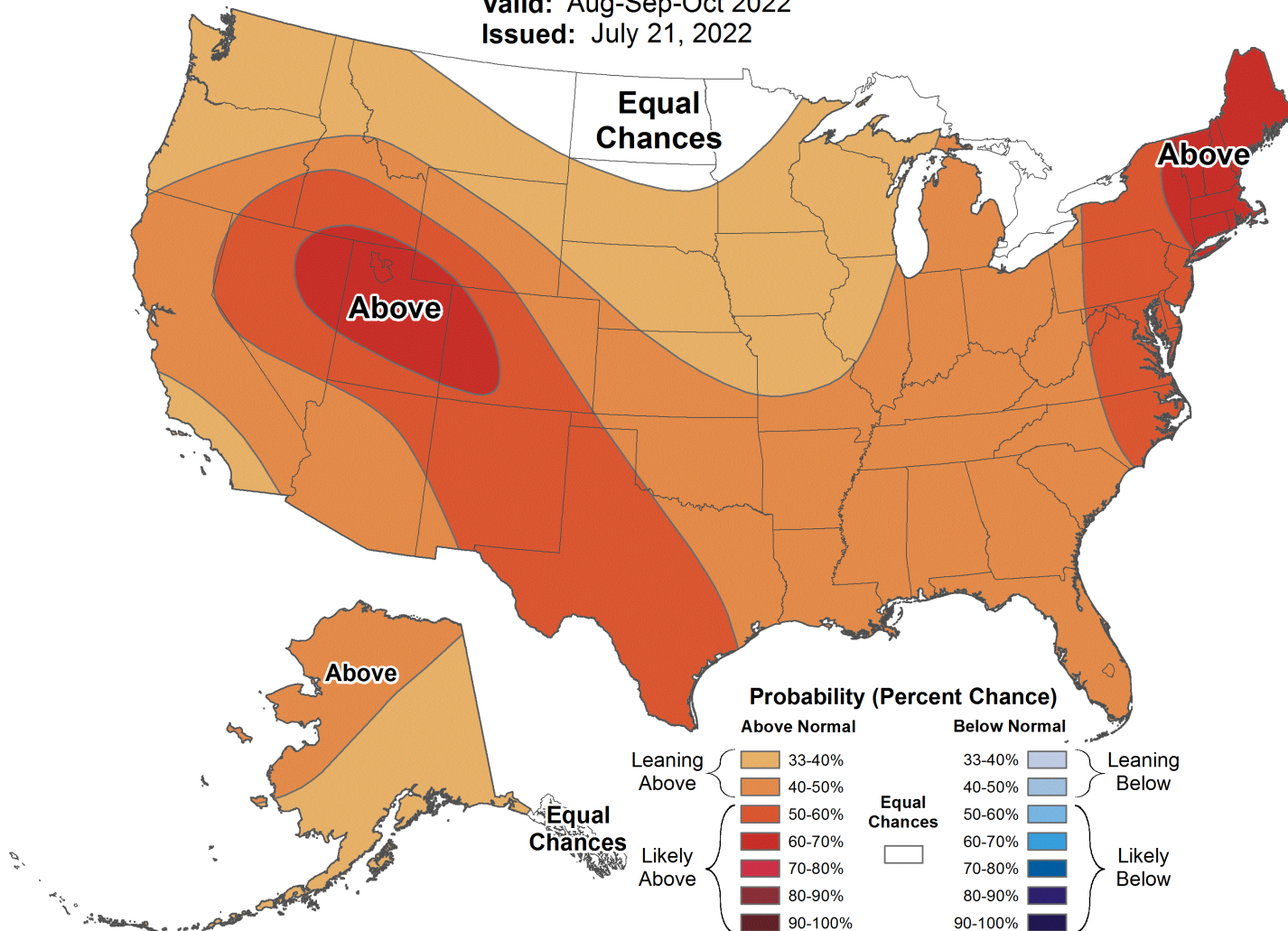
droughtmonitor.unl.edu



Seasonal Temperature Outlook



Valid: Aug-Sep-Oct 2022
Issued: July 21, 2022



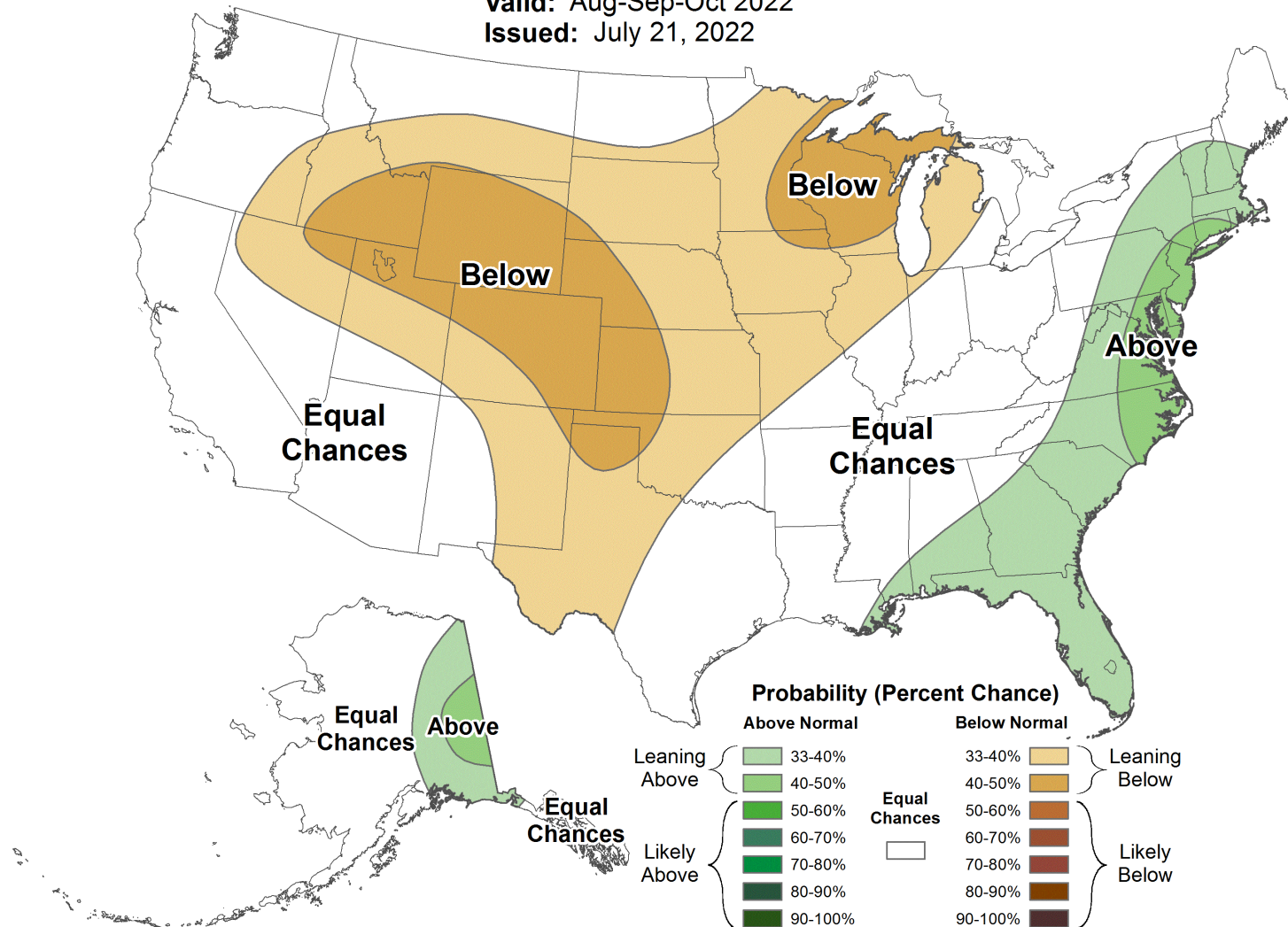


Seasonal Precipitation Outlook



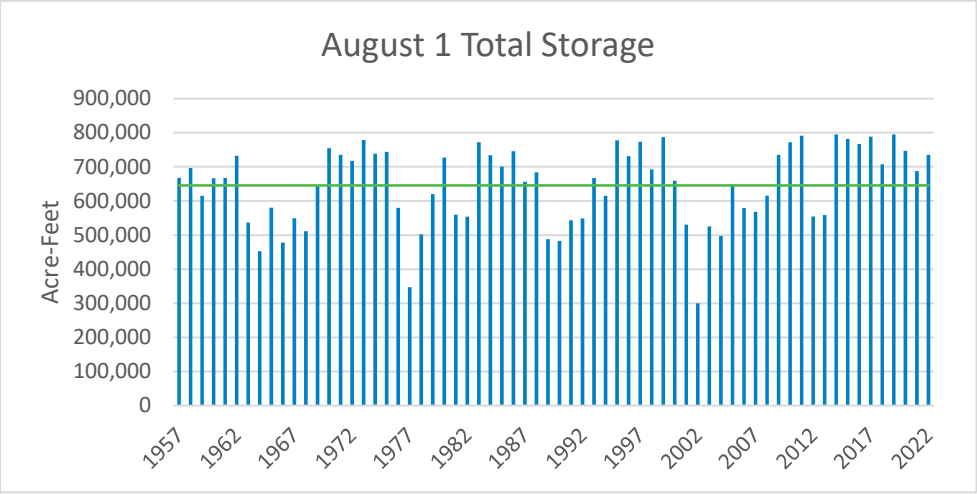
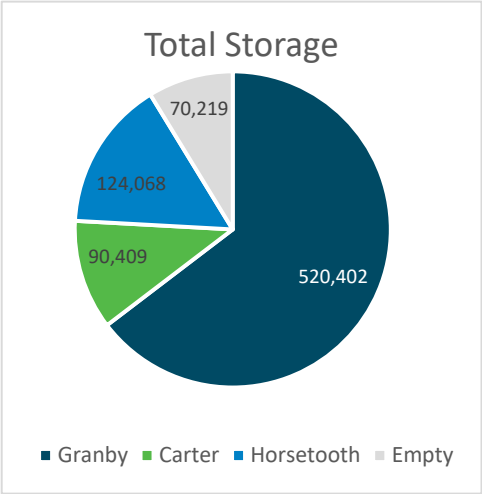
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Issued: July 21, 2022

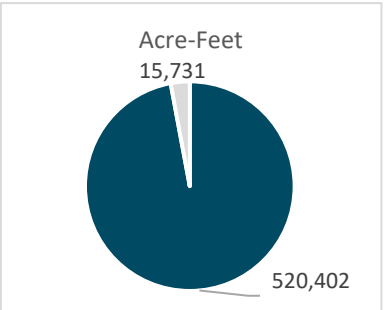
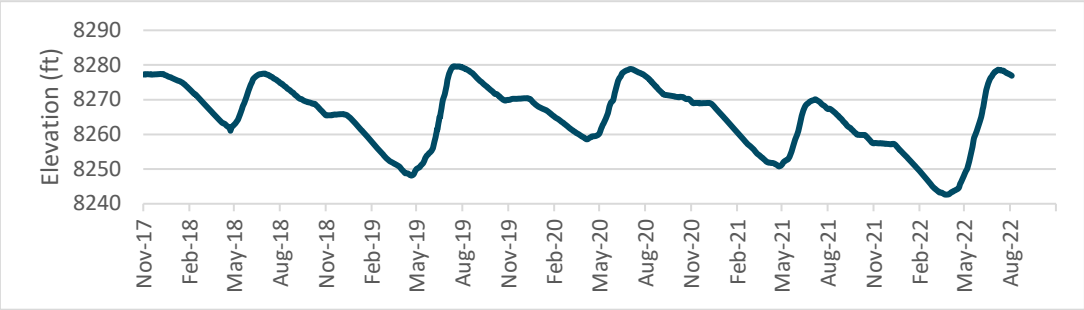


C-BT Project Storage

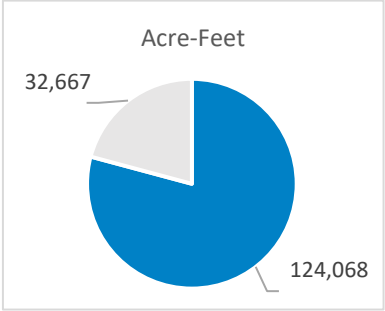
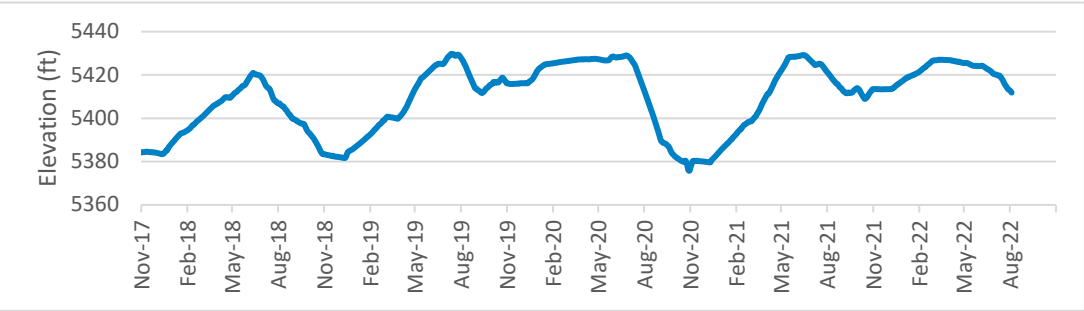
August 1, 2022



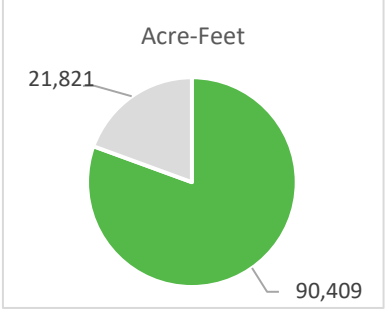
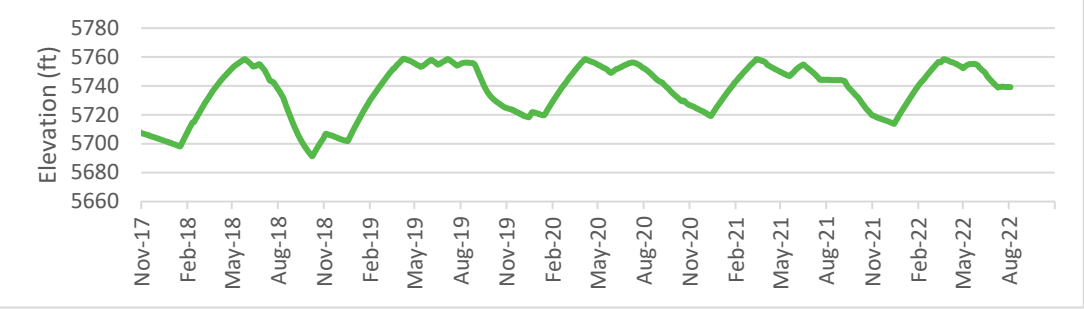
Lake Granby Storage in Lake Granby decreased 3,430 acre-feet last month



Horsetooth Reservoir Storage in Horsetooth Reservoir decreased 13,587 acre-feet last month



Carter Lake Storage in Carter Lake decreased 3,119 acre-feet last month

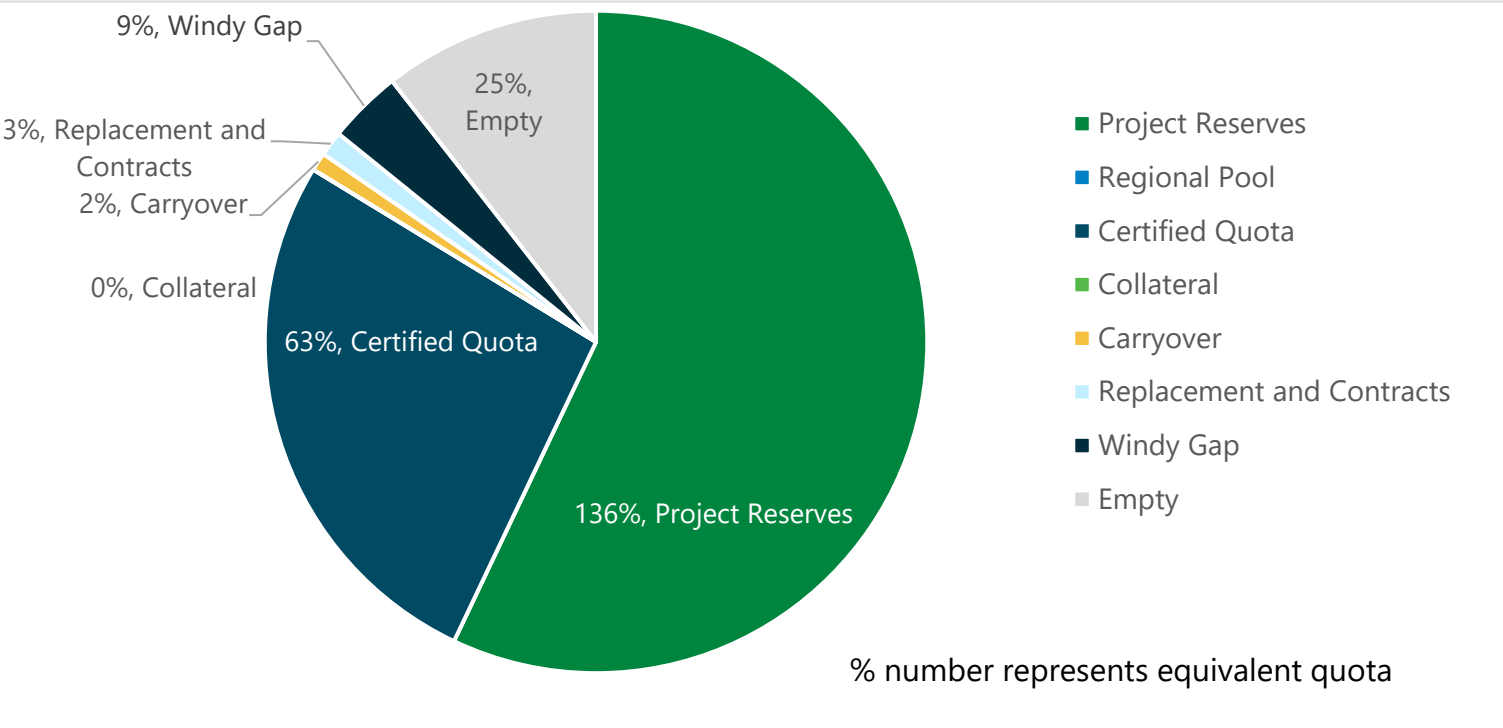


C-BT Project Allocated Water

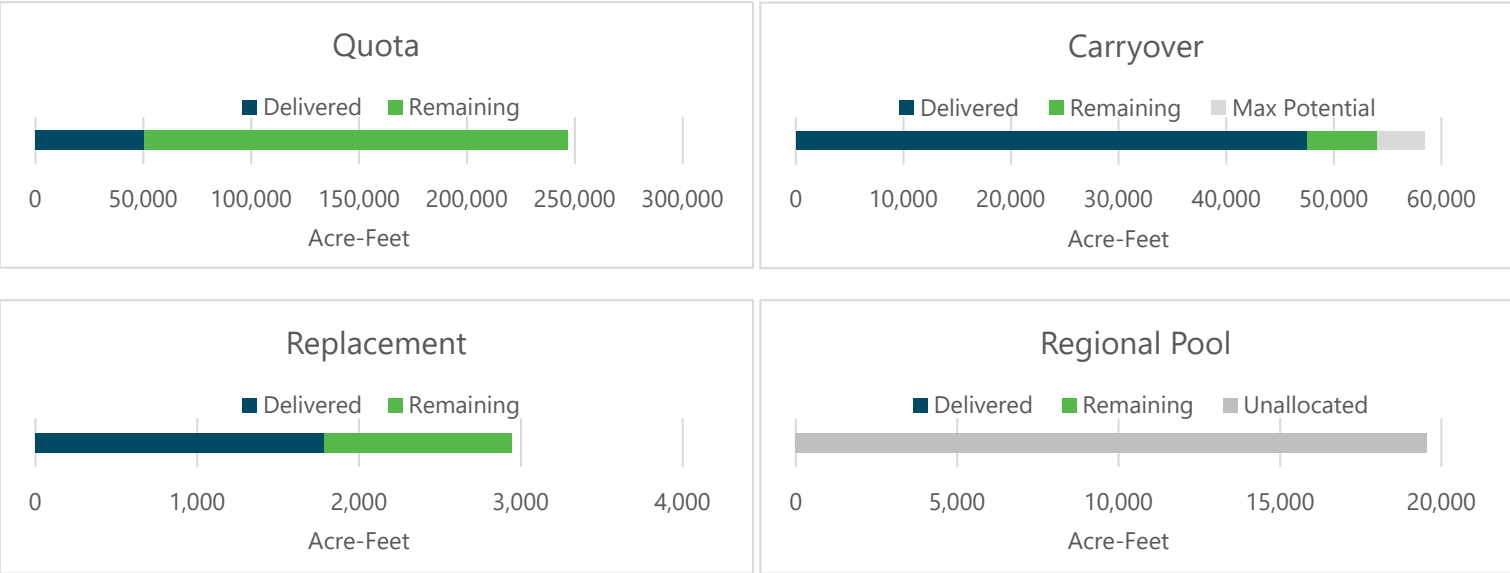
August 1, 2022



C-BT Active Storage



C-BT Delivery Obligations

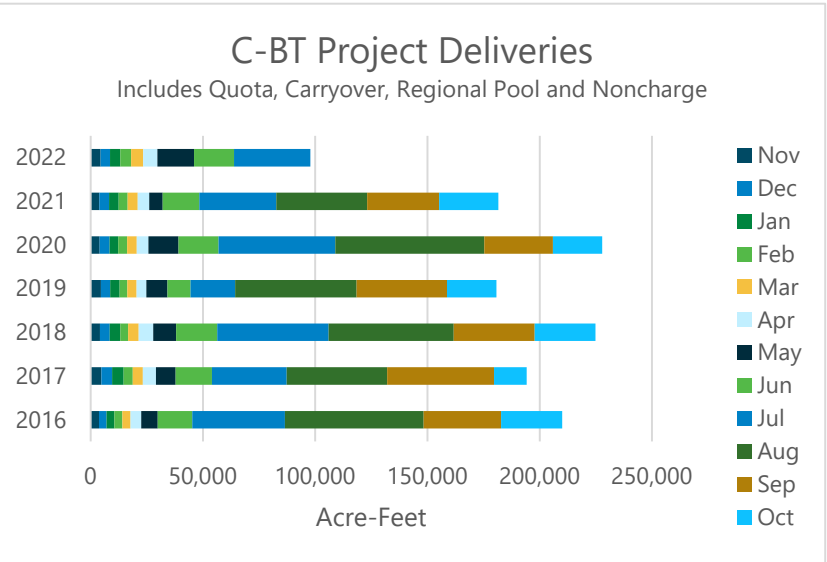
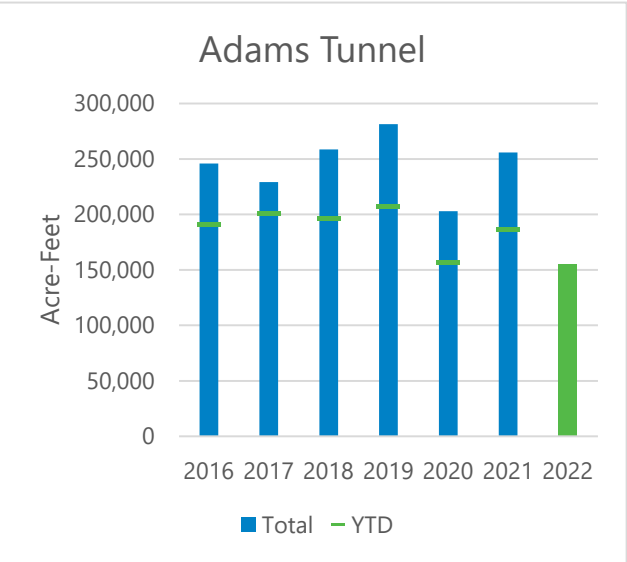


Notes:

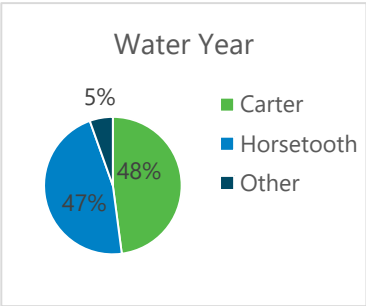
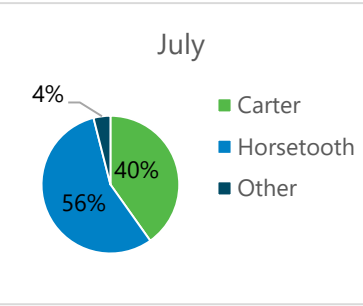
- 1) Quota set at 80%
- 2) Carryover - Entites certified 54,014 Acre-Feet of Carryover for WY2022. for Carryover so that adequate supplies are set aside to fulfill all potential obligations.
- 3) Regional Pool - Additional water acrued to the Regional Pool on April 30, 2022. There is 19,547 Acre-Feet in the Regional Pool for WY 2022.

C-BT Project Deliveries

August 1, 2022



Deliveries by Area



Deliveries by Use

