



Utilities

electric · stormwater · wastewater · water

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MEMORANDUM

DATE: September 8, 2021

TO: Water Commission

FROM: Michael Neale, EIT, Water Resources Engineer
Donnie Dustin, P.E., Water Resources Manager

RE: **August 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 August 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 WY2021

- Water Supply- The supply outlook was fair during August. The Water Treatment Facility was able to treat some Poudre River water given the poor water quality from storms over the Cameron Peak burn area, only treating about 31% of average for the month.
- Water Demand- Demands for the month of August were slightly below projected. Please refer to the attached graphs and tables. Water demands within the Water Utility service area for the month:
 - Water demand for August: 96.2% of the projected demand.
 - Water demand for calendar year: 96.3% of the projected demand.

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

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

- Mean daily high temperature recorded for the month: 87.2 °F.
 - Long term average daily high temperature for the month is: 83.6 °F.
- Total recorded monthly precipitation: 0.64 inches.
 - Long term average precipitation for the month: 1.35 inches.

Reservoir Storage: (See attached sheet from Northern Water)

- Colorado-Big Thompson project reservoirs (Granby, Carter, and Horsetooth): 81% full.
- Horsetooth Reservoir: 79% full.
- Joe Wright Reservoir: 99% full (113% of average based on 13 years of data).

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/CLAFTRCO?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.
- 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:

- 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 a drought. For this water year, the City has sufficient Colorado River supplies already delivered and available in Horsetooth Reservoir.
- Due to the improved supply and demand outlook, the Water Shortage Watch is set to end on October 1st.

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)

- Projected Demand is expected demand based on GPCD and population estimates
- High Demand applies a monthly worse case factor to Projected Demand

SUPPLIES

Poudre

- Supply 1 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%.
- Supply 2 does not include any Poudre water

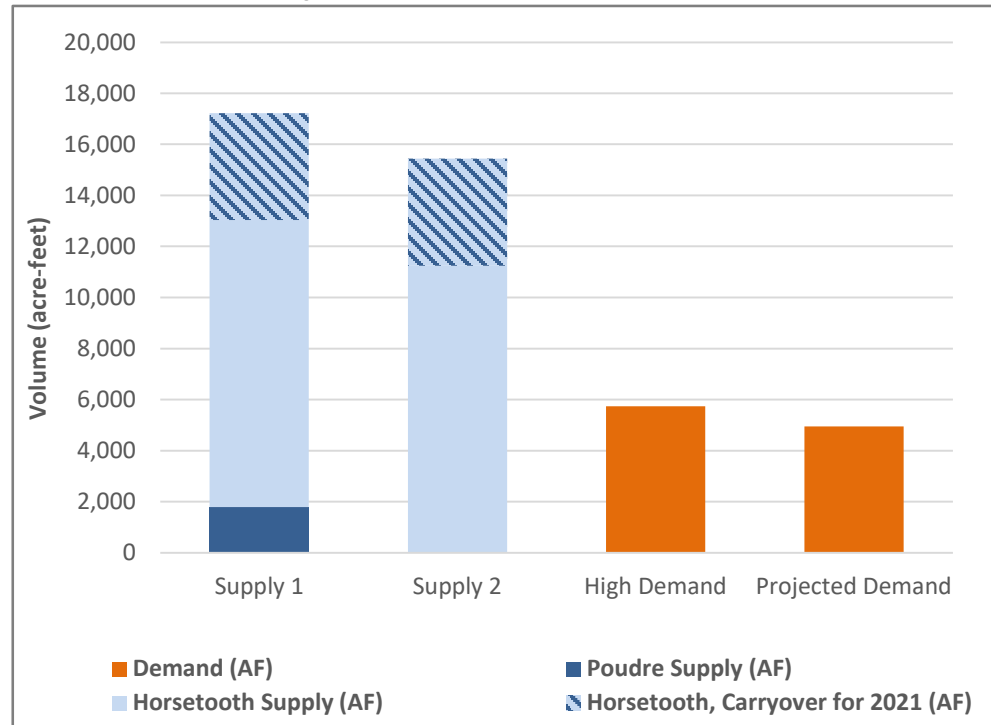
Horsetooth Reservoir

- 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

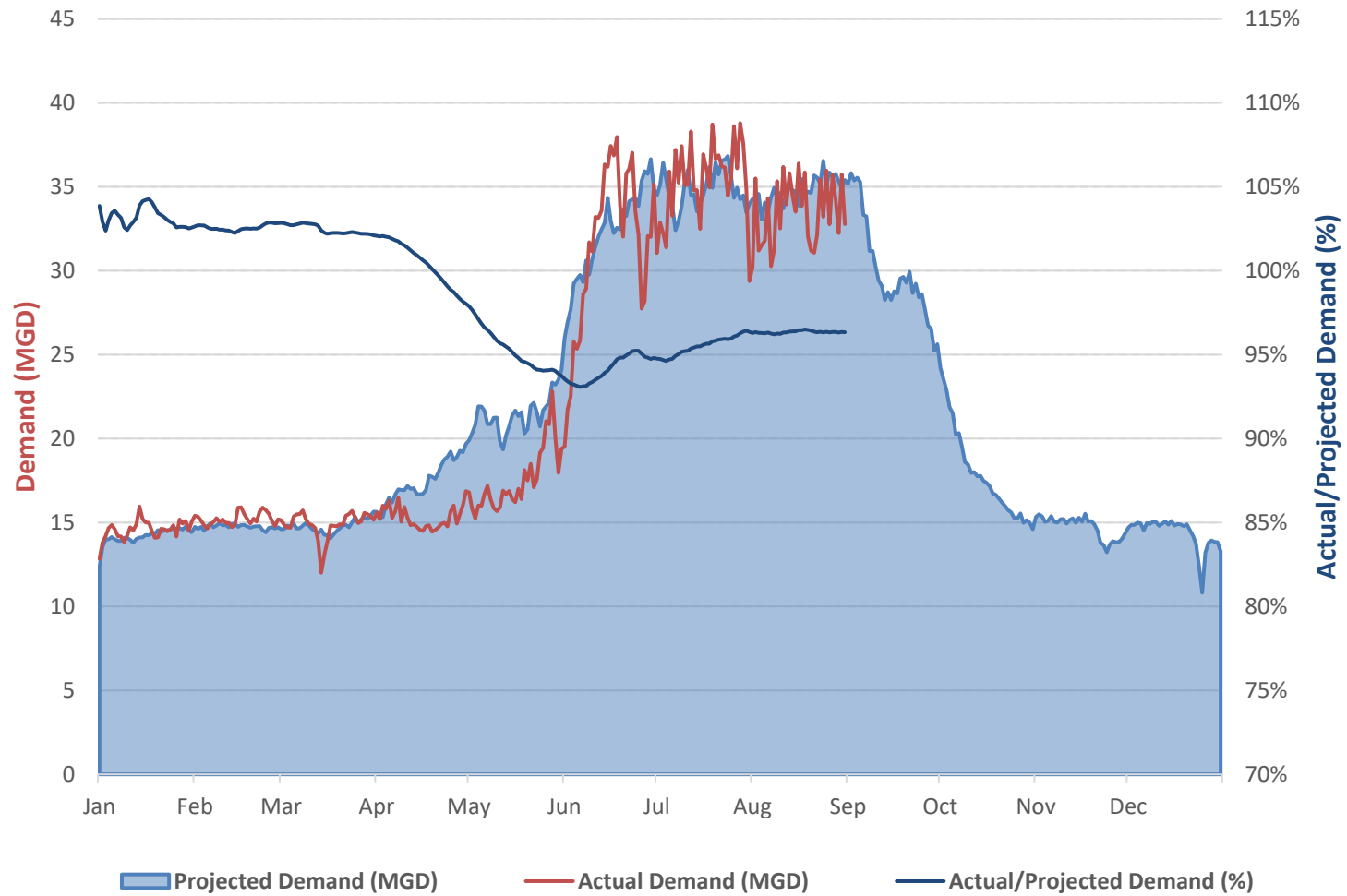
- Amount from this year's Horsetooth supplies to carryover for next year
- Max amount allowable is 4,190 AF before 10% shrink

Remaining Water Demand and Supply from September 01 - October 31, 2021



Scenario	Demand (AF)	Poudre Supply (AF)	Horsetooth Supply (AF)	Horsetooth, Carryover for 2021 (AF)
Supply 1	--	1,788	11,247	4,190
Supply 2	--	--	11,247	4,190
High Demand	5,739	--	--	--
Projected Demand	4,947	--	--	--

2021 Fort Collins Utilities Treated Water Demands



City of Fort Collins Utilities
Treated Water Monthly Summary
2021

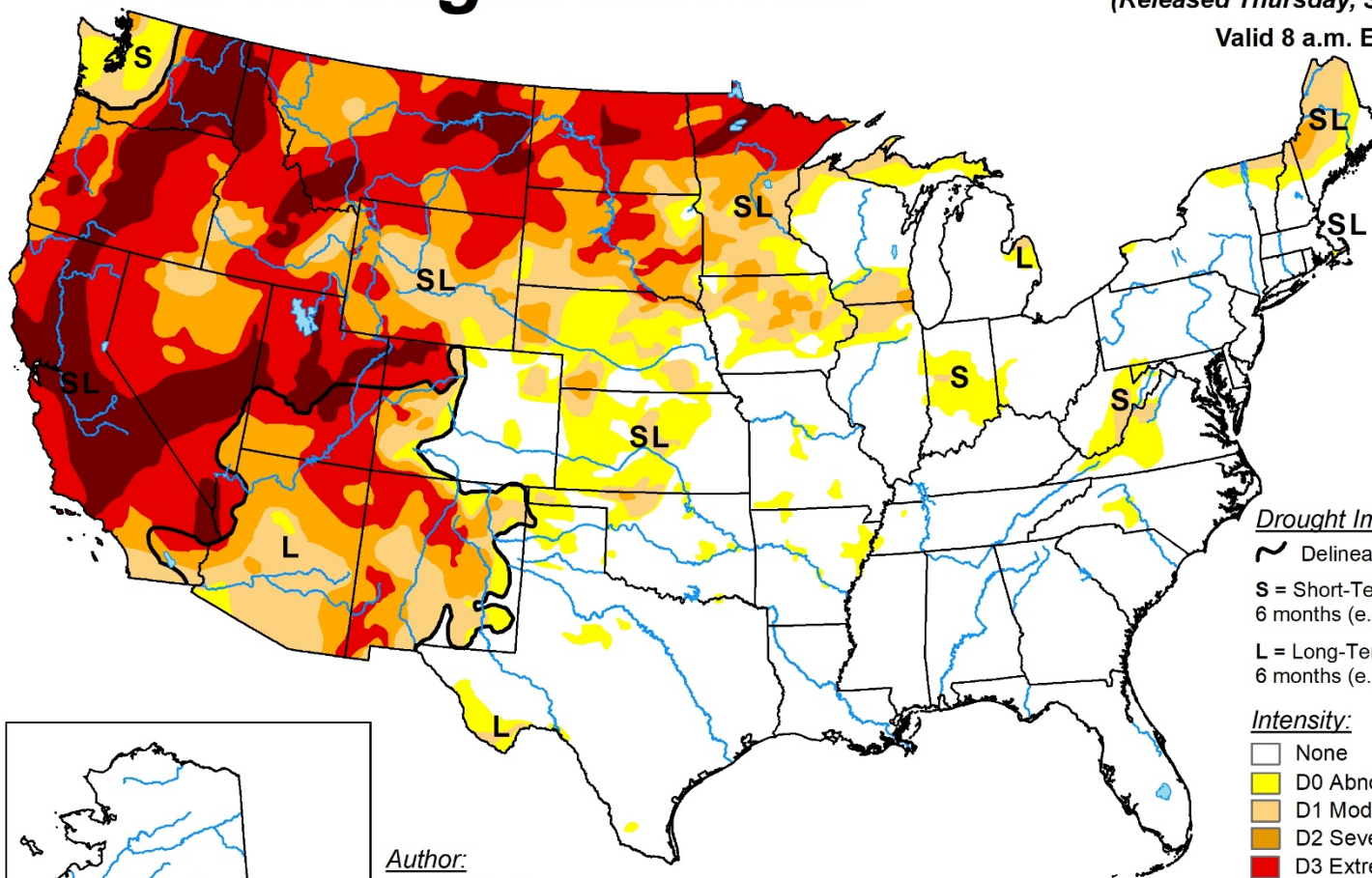
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
WTF Water Supply (MG)													
From Poudre	304.5	290.0	288.6	155.0	275.5	403.0	241.8	169.6					2,127.9
From Horsetooth	206.3	186.0	218.7	359.0	330.8	681.8	1,019.1	1,036.1					4,037.8
Total Raw Water	510.8	476.0	507.2	514.0	606.4	1,084.9	1,260.8	1,205.7					6,165.7
Demands (MG)													
WTF Production	489.7	451.6	478.1	492.0	582.7	1,039.1	1,211.4	1,156.6					5,901.4
Change in Storage	9.0	-1.1	-1.1	5.0	-3.9	4.4	-0.9	0.2					
Demand on WTF	480.7	452.7	479.2	487.1	586.7	1,034.7	1,212.3	1,156.4					5,889.7
From Soldier Canyon	10.7	10.3	23.0	21.8	80.7	264.0	340.7	299.1					1,050.1
To Soldier Canyon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0
To FC-Lov/NWCWD	-39.8	-37.0	-40.4	-49.6	-123.7	-357.2	-457.9	-417.0					-1,522.5
For City	451.6	426.0	461.8	459.3	543.7	941.6	1,095.1	1,038.4					5,417.3
Daily Deliveries to City (MG)													
Max During Month	16.0	15.9	15.7	16.9	22.8	38.0	38.8	36.4					38.8
Min During Month	12.8	14.7	12.0	14.5	15.2	19.5	29.4	30.2					12.0
Avg During Month	14.6	15.2	14.9	15.3	17.5	31.4	35.3	33.5					22.2
Monthly Deliveries (Ac-Ft)													
Projected	1,351	1,268	1,407	1,605	2,038	2,962	3,317	3,311	2,770	1,700	1,357	1,367	24,453
Actual	1,386	1,307	1,417	1,409	1,668	2,890	3,361	3,187					16,625
Ratio	103%	103%	101%	88%	82%	98%	101%	96%					68%
Year to Date Deliveries (Ac-Ft)													
Projected	1,351	2,619	4,025	5,631	7,668	10,630	13,947	17,258	20,028	21,728	23,086	24,453	24,453
Actual	1,386	2,693	4,110	5,520	7,188	10,078	13,438	16,625					16,625
Ratio	103%	103%	102%	98%	94%	95%	96%	96%					68%

U.S. Drought Monitor

August 31, 2021

(Released Thursday, Sep. 2, 2021)

Valid 8 a.m. EDT

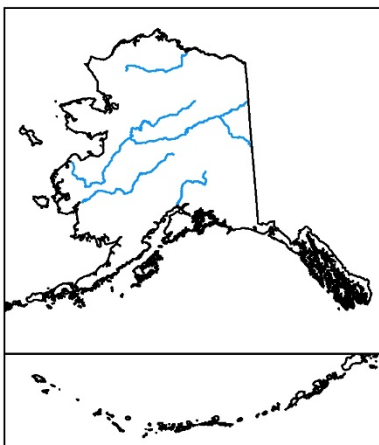


Drought Impact Types:

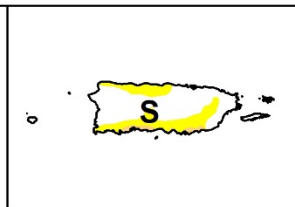
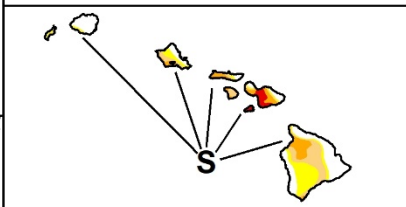
- ~ Delineates dominant impacts
- S** = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L** = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

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



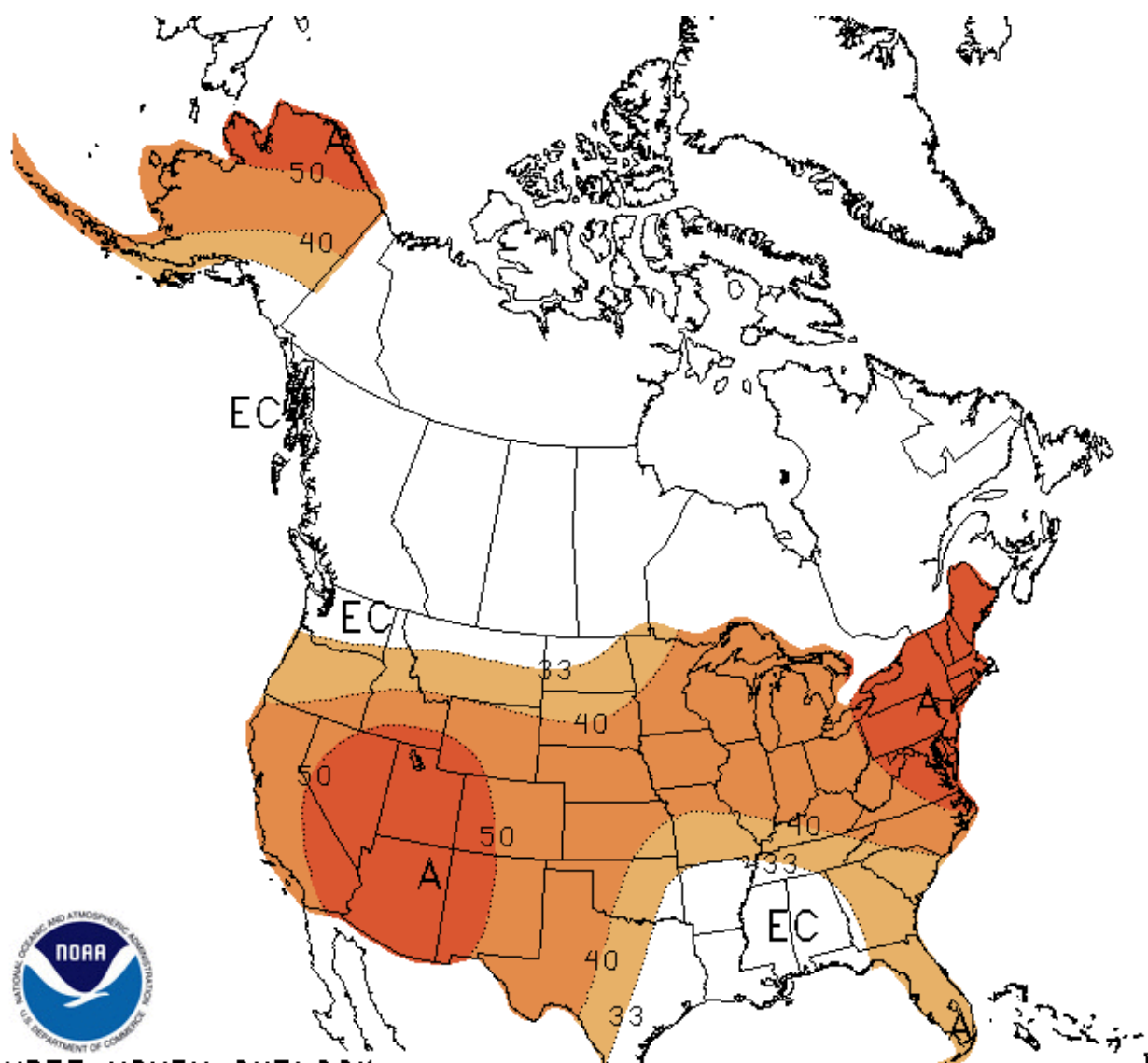
Author:
David Simeral
Western Regional Climate Center



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>

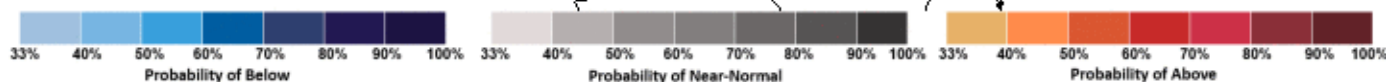


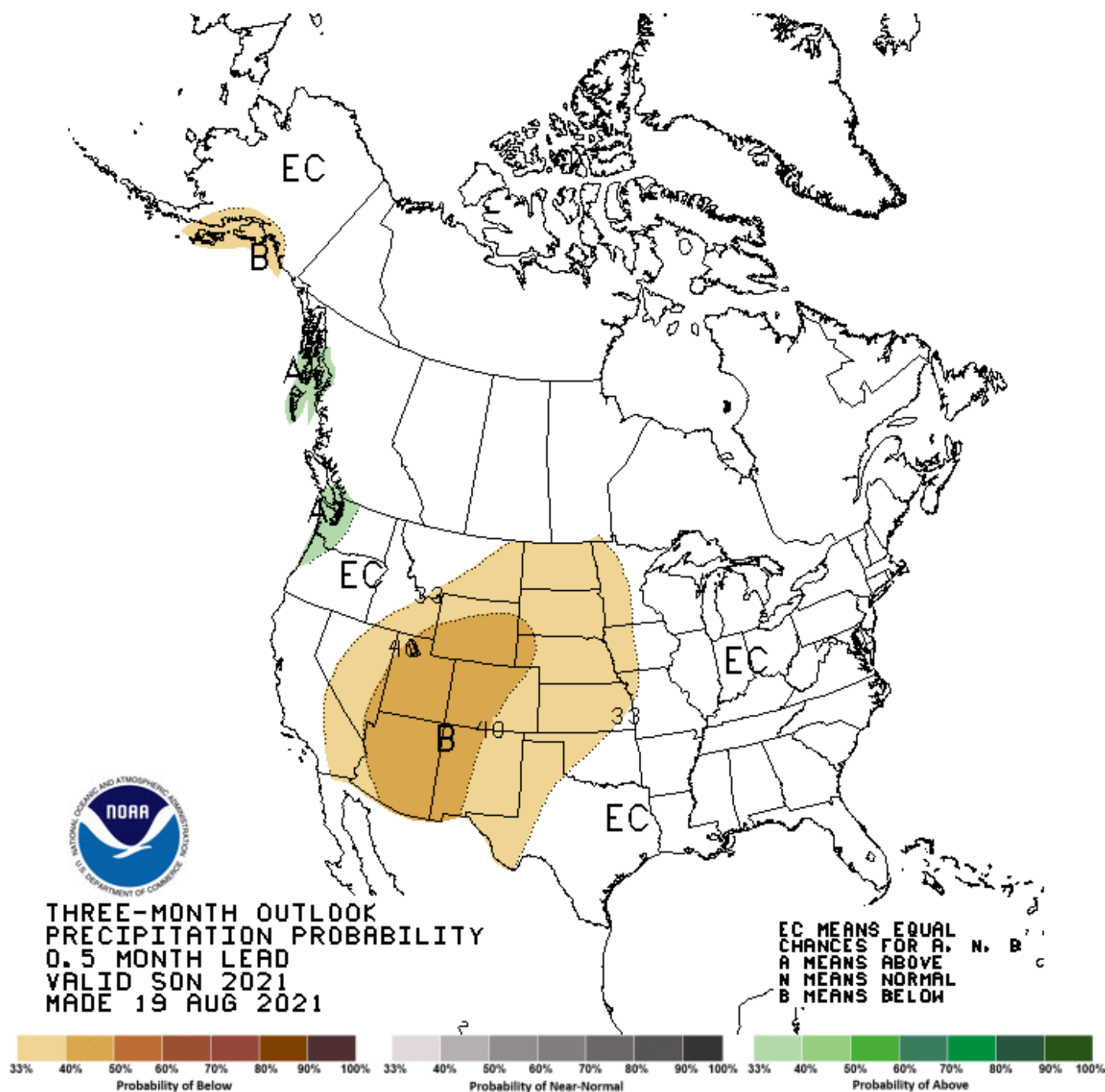
droughtmonitor.unl.edu



THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID SON 2021
MADE 19 AUG 2021

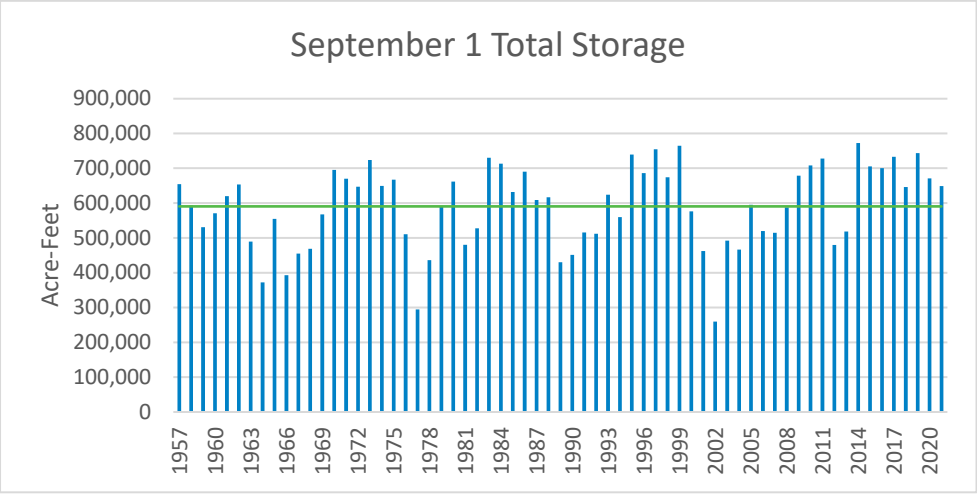
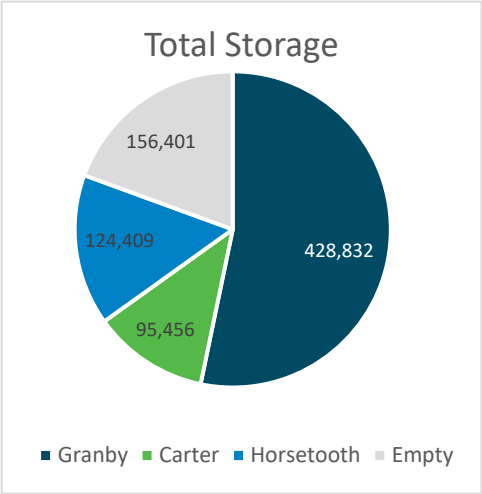
EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW



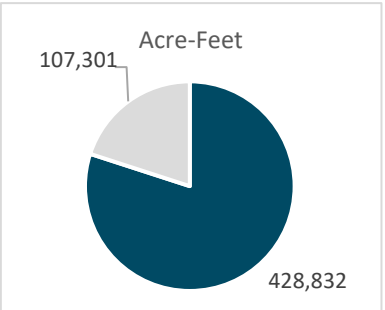
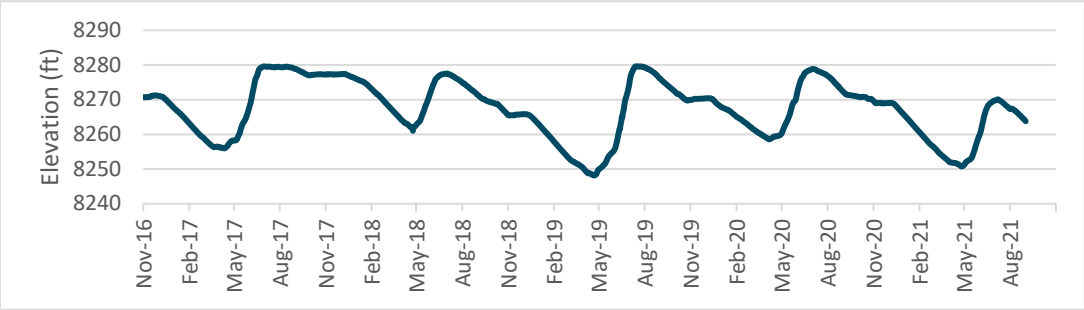


C-BT Project Storage

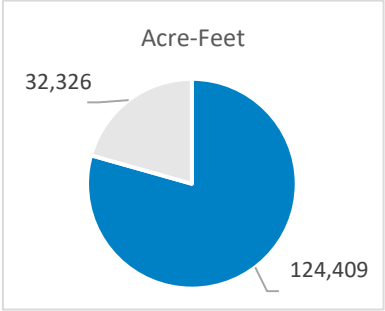
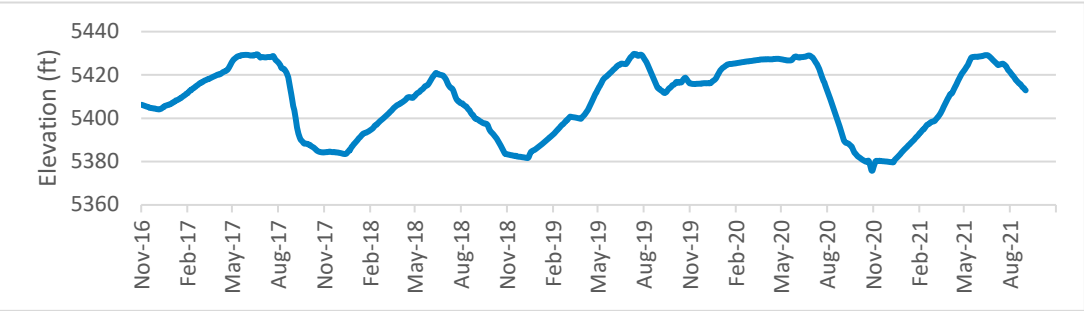
September 1, 2021



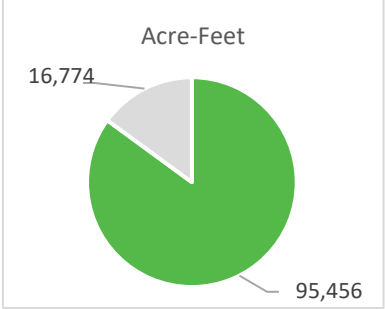
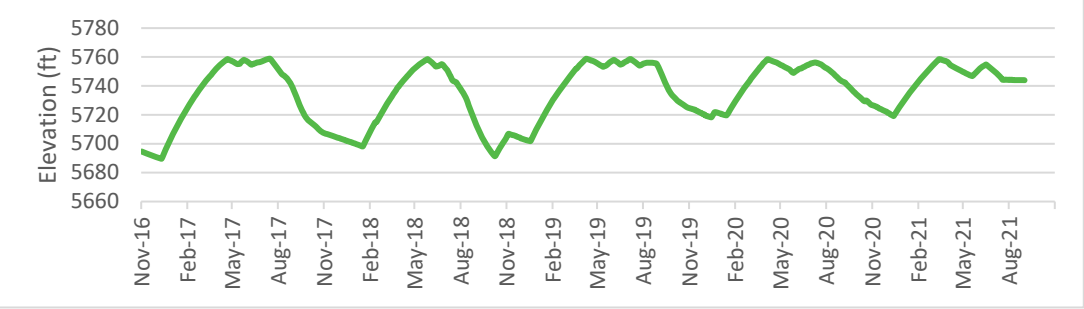
Lake Granby Storage in Lake Granby decreased 23,015 acre-feet last month



Horsetooth Reservoir Storage in Horsetooth Reservoir decreased 15,630 acre-feet last month



Carter Lake Storage in Carter Lake decreased 271 acre-feet last month

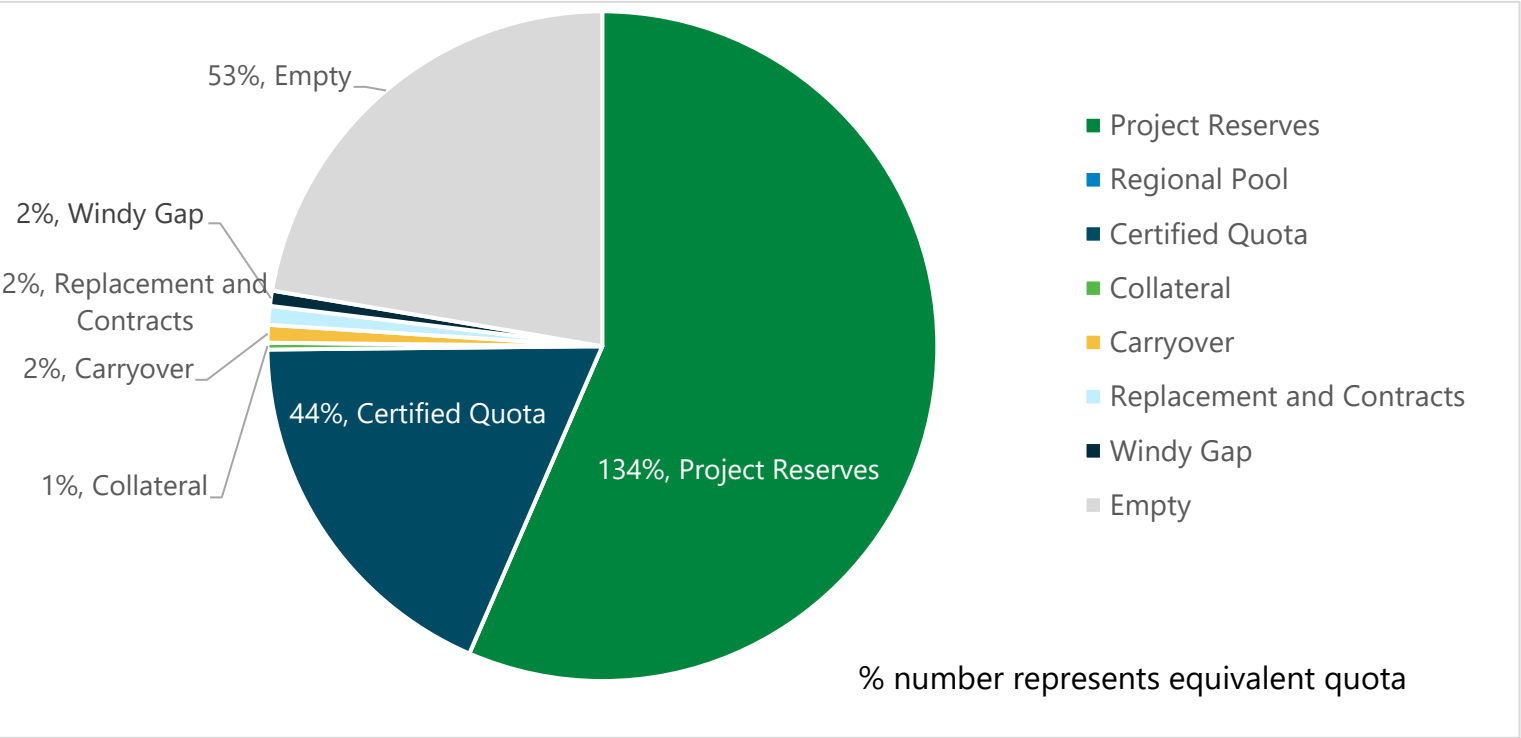


C-BT Project Allocated Water

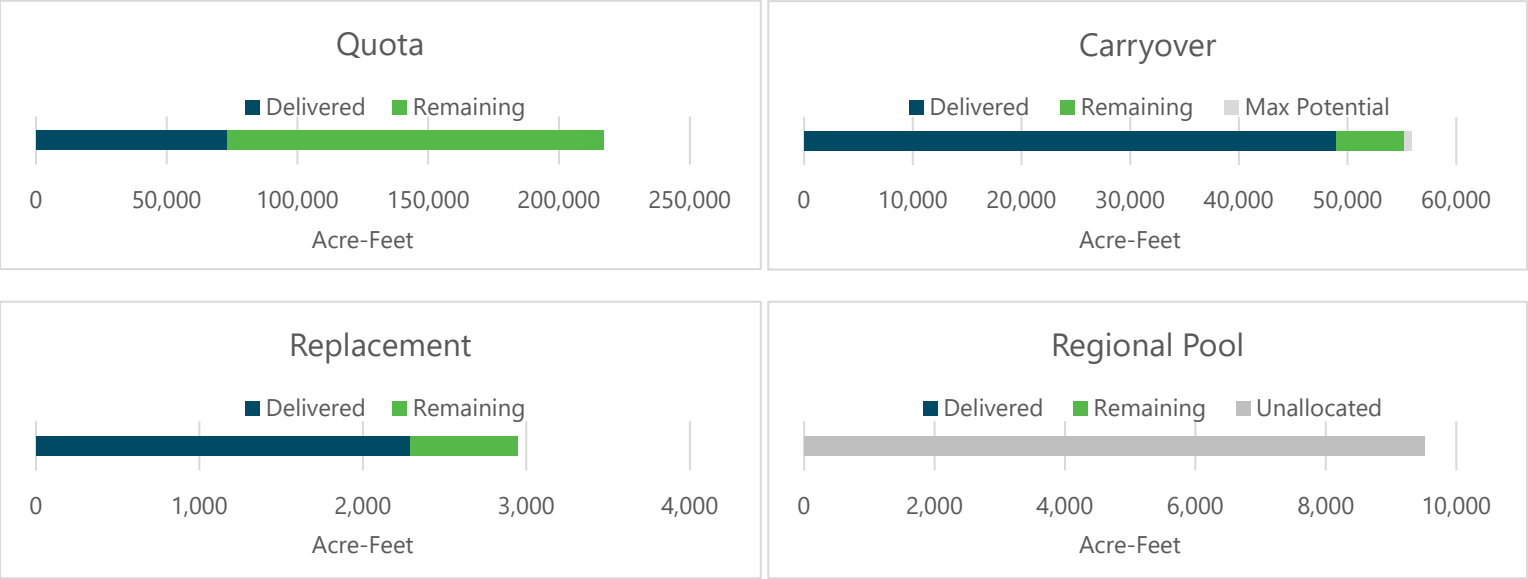
September 1, 2021



C-BT Active Storage



C-BT Delivery Obligations

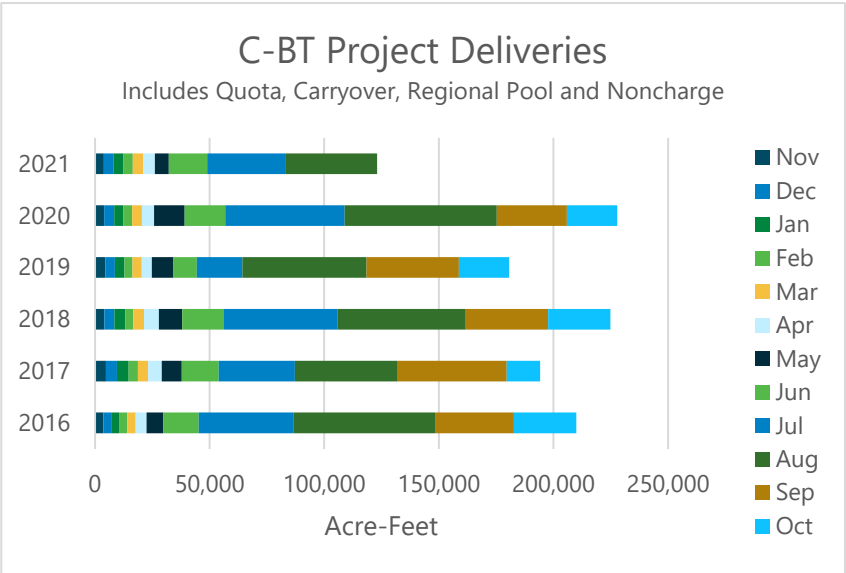
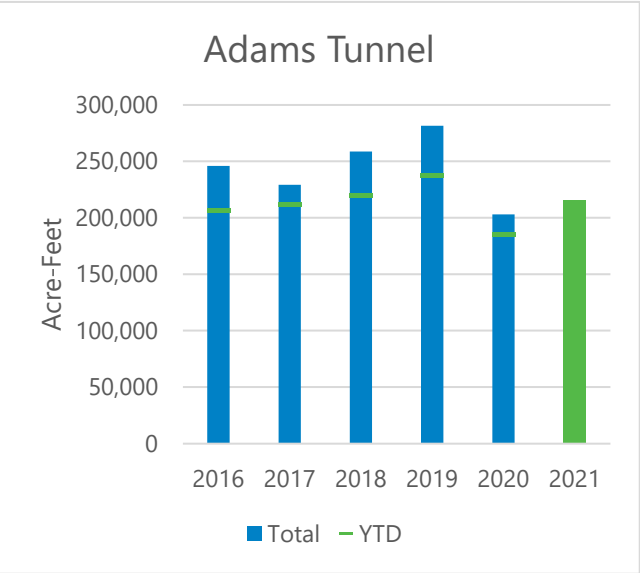


Notes:

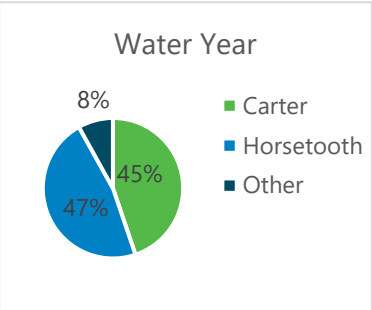
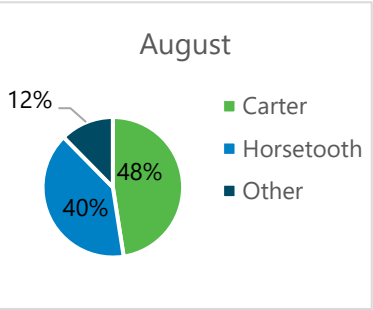
- 1) Quota set at 70%
- 2) Carryover - Entites certified 55,240.5 Acre-Feet of Carryover for WY2021.
- 3) Regional Pool - Additional water acrued to the Regional Pool on April 30, 2021. There is 9,510.3 Acre-Feet in the Regional Pool for WY 2021.

C-BT Project Deliveries

September 1, 2021



Deliveries by Area



Deliveries by Use

