

**Utilities**

electric · stormwater · wastewater · water

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DATE: November 8, 2022

TO: Water Commission

FROM: Michael Neale, MSc, Water Resources Engineer

RE: **October 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 October and provide updated 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 October, water supply consisted of 59% from Horsetooth Reservoir, and 41% from the Poudre River.
- Water Demand – Demands within the Water Utility service area for the month of October were slightly above projected. Please refer to the graphs and tables below.
 - Water demand for October was 103% of the projected demand.
 - Water demand for calendar year is 97% 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: 68.0 °F.
 - 30-year average daily high temperature for the month is: 50.2 °F.
- Total recorded monthly precipitation: 0.33 inches.
 - 30-year average precipitation for the month: 1.25 inches.

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

- Colorado-Big Thompson project reservoirs (Granby, Carter, and Horsetooth): 77% full.
- Horsetooth Reservoir: 51% full.
- Joe Wright Reservoir: 66% full (102% 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
As of November 1st, Larimer County is experiencing abnormally dry conditions.
- Colorado and the USA <https://droughtmonitor.unl.edu/>
The Colorado River basin remains in severe drought conditions.

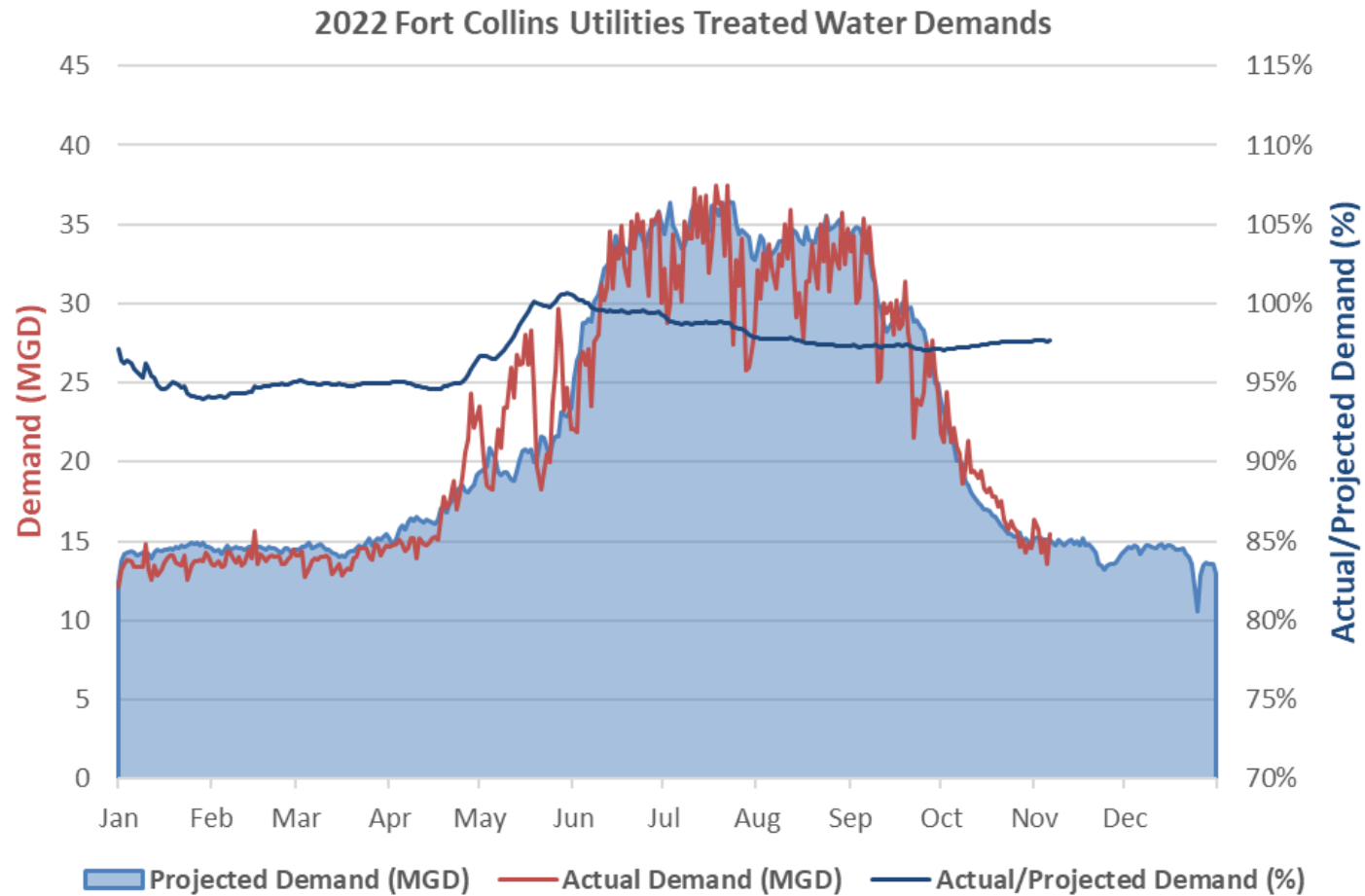
Climate Outlook: <https://www.cpc.ncep.noaa.gov/>

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

- Equal chances of above or below normal precipitation.
- Leaning above normal temperature.

Other Water Supply Considerations:

- The Colorado-Big Thompson (CBT) system is in a healthy state with 110% equivalent quota in project reserves, this on top of the initial quota allocation and carryover. See Northern Water's *Storage and Delivery Report* attached.
- In October, Northern Water set the initial 2023 quota at 40% due to uncertainty regarding Colorado River Basin drought management policy and Northern Water's commitment to system resiliency. Typically, the initial quota is set at 50%.
 - An additional quota is issued in April each year and more can be issued by the board in later months. For water year 2022, the additional quota was 20% followed by another 10% in June to supplement agriculture experiencing dry conditions, for a total quota of 80%.
 - Once the additional quota is allocated in April, our Water Shortage Action Committee will assess snowpack, soil moisture, climate outlook and reservoir storage to determine if a water shortage declaration will be necessary.
- Water Resources Division is closely monitoring the hydrology of the Colorado River basin, the statewide and regional discussions around the Colorado River Compact, and any demand management action by the Federal Bureau of Reclamation in response to drought in the Colorado River basin.
- Water Resources Division maintains close communication with Northern Water regarding any drought response or policy action affecting the CBT system. As of now, there is no indication of drought management action needed from Northern Water.
- If we need to implement water restrictions, we have the Water Shortage Action Plan (WSAP) to guide our decisions and actions (fcgov.com/WSAP).

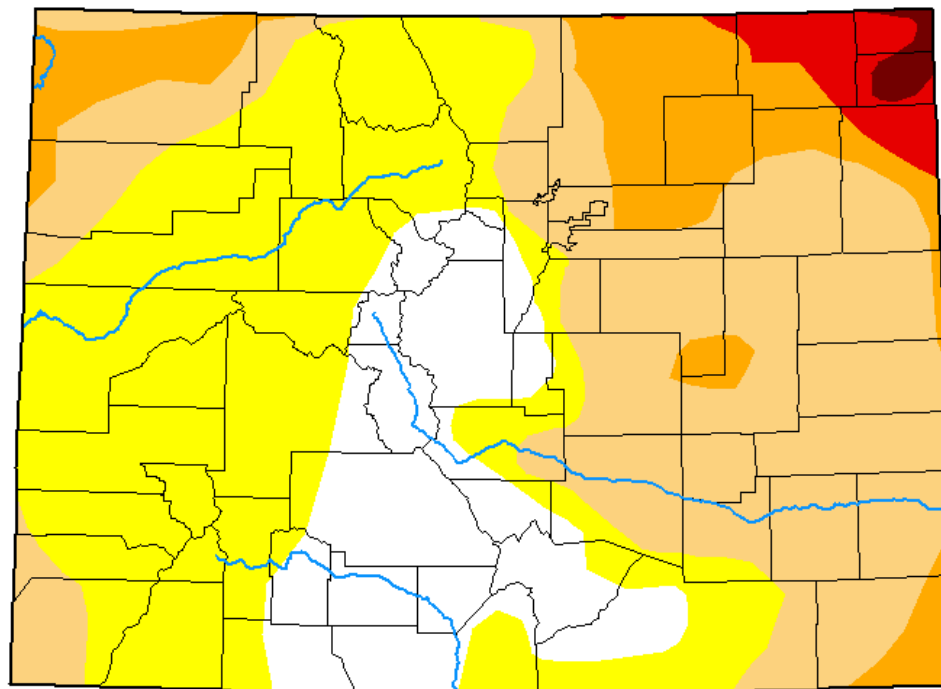


City of Fort Collins Utilities
Treated Water Monthly Summary
2022







	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	335.7	466.1	268.4			2,557.5
From Horsetooth	289.9	433.3	306.1	297.1	696.5	785.3	756.4	856.4	549.4	386.8			5,357.2
Total Raw Water	451.5	433.3	496.8	590.3	818.8	1,073.8	1,187.3	1,192.1	1,015.6	655.2			7,914.7
Demands (MG)													
WTF Production	436.0	415.4	468.3	557.2	780.5	1,025.9	1,134.5	1,143.8	974.0	630.4			7,565.9
Change in Storage	-1.6	-1.0	4.0	4.7	-0.2	0.5	0.7	0.8	-2.2	-0.6			5.0
Demand on WTF	437.6	416.4	464.4	552.5	780.7	1,025.4	1,133.8	1,143.0	976.3	630.9			7,560.9
From Soldier Canyon	21.8	7.1	14.4	48.7	174.5	307.9	348.5	321.7	263.9	74.4			1,582.9
To Soldier Canyon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1			-0.1
To FC-Lov/NWCWD	-39.6	-33.2	-48.4	-96.0	-235.9	-407.7	-469.8	-456.3	-379.4	-137.9			-2,304.1
For City	419.8	390.3	430.4	505.3	719.3	925.6	1,012.4	1,008.4	860.8	567.4			6,839.7
Daily Deliveries to City (MG)													
Max During Month	14.8	15.7	14.8	24.3	29.7	35.7	37.4	35.9	35.3	24.4			37.4
Min During Month	12.1	13.4	12.7	13.9	18.2	21.9	25.8	27.7	21.5	14.3			12.1
Avg During Month	13.5	13.9	13.9	16.8	23.2	30.9	32.7	32.5	28.7	18.3			22.4
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	3,095	2,642	1,741			20,990
Ratio	94%	96%	95%	100%	113%	96%	93%	95%	96%	103%			87%
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	16,607	19,249	20,990			20,990
Ratio	94%	95%	95%	96%	101%	99%	98%	97%	97%	98%			87%

U.S. Drought Monitor Colorado

November 1, 2022
(Released Thursday, Nov. 3, 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 <https://droughtmonitor.unl.edu/About.aspx>

Author:

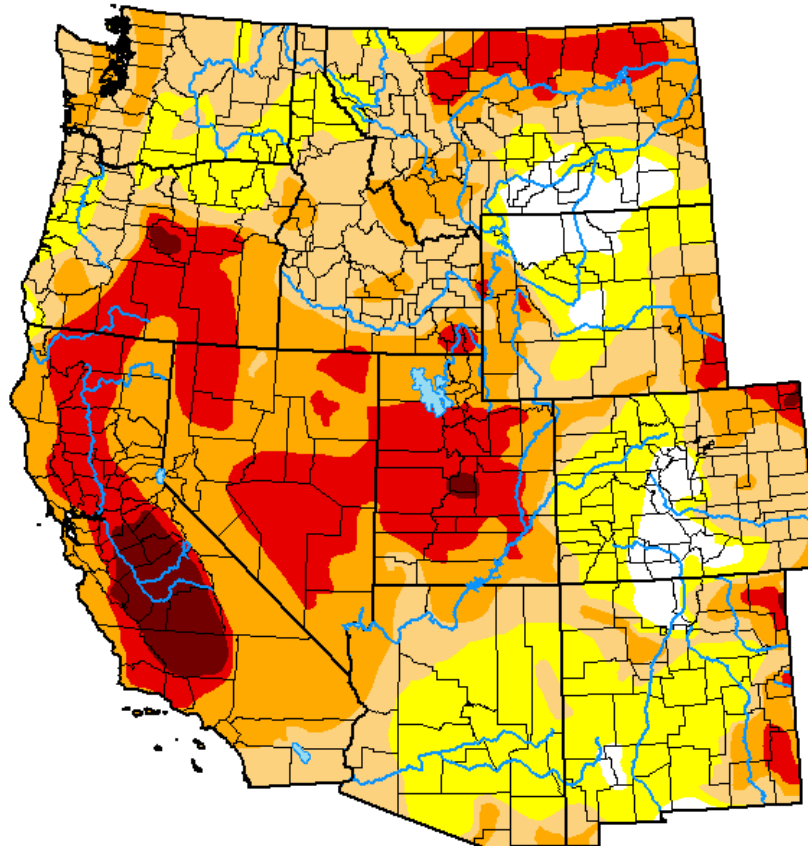
Brian Fuchs
National Drought Mitigation Center









droughtmonitor.unl.edu

U.S. Drought Monitor West

November 1, 2022
(Released Thursday, Nov. 3, 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 <https://droughtmonitor.unl.edu/About.aspx>

Author:

Brian Fuchs
National Drought Mitigation Center



droughtmonitor.unl.edu

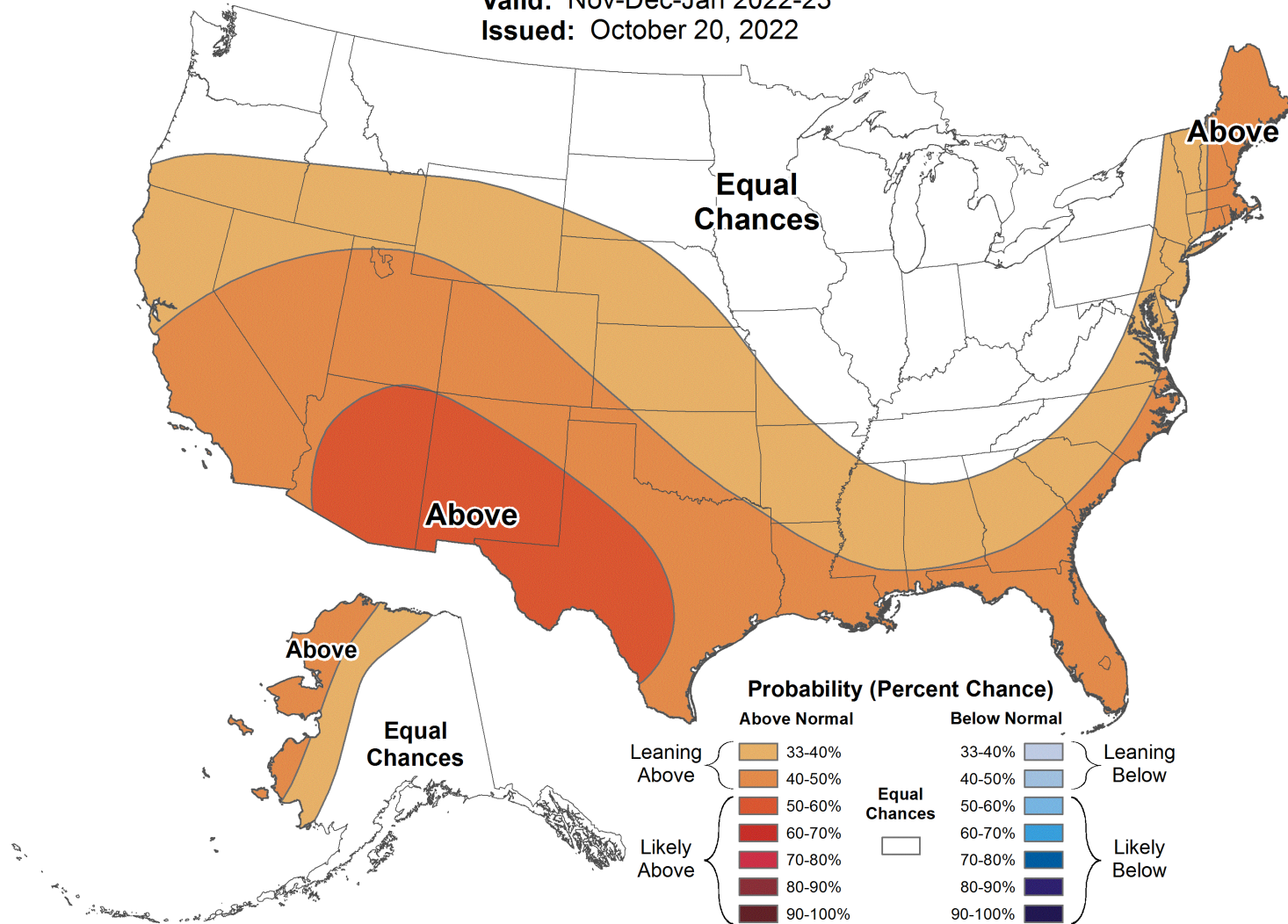


Seasonal Temperature Outlook



Valid: Nov-Dec-Jan 2022-23

Issued: October 20, 2022



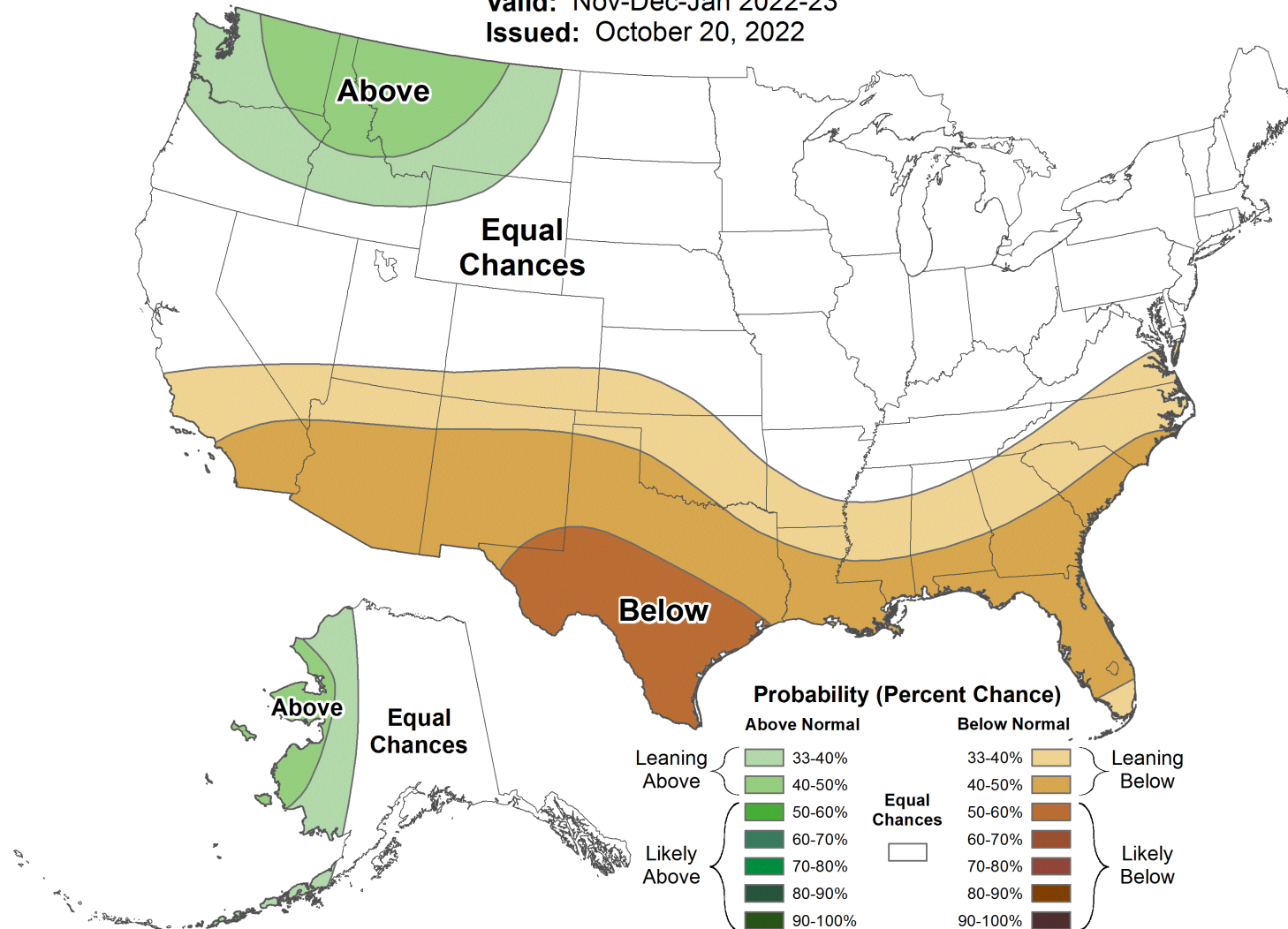


Seasonal Precipitation Outlook



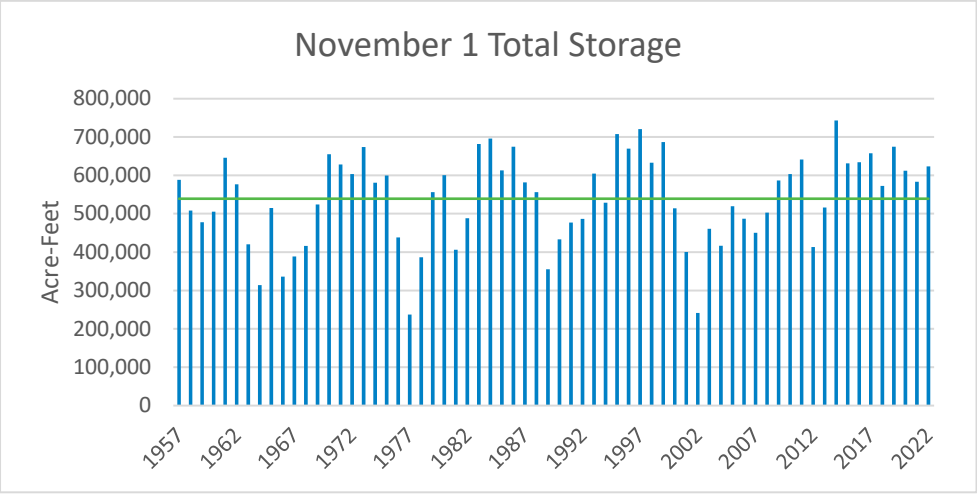
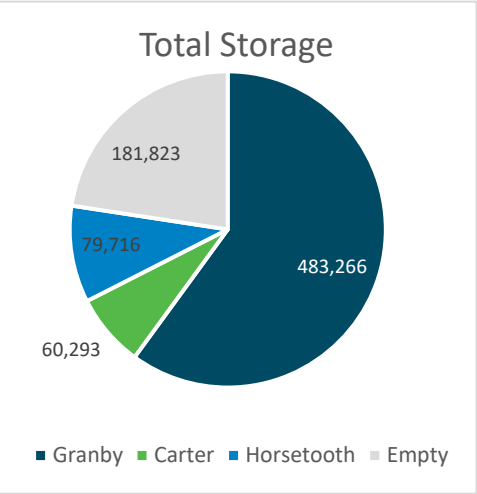
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Issued: October 20, 2022

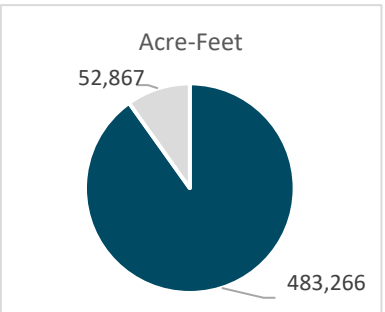
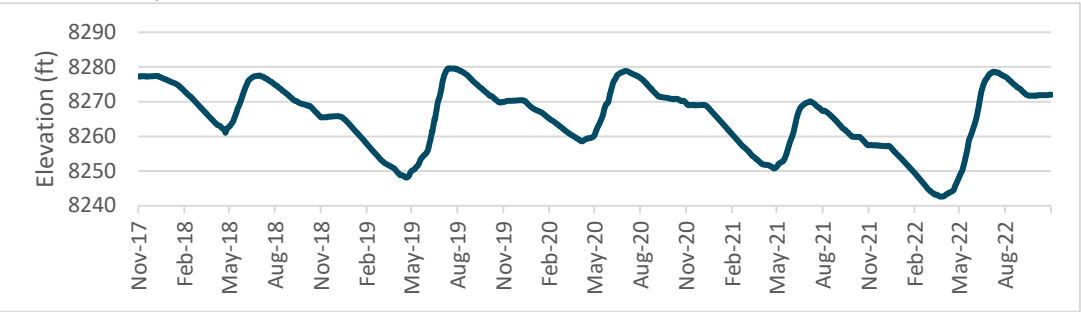


C-BT Project Storage

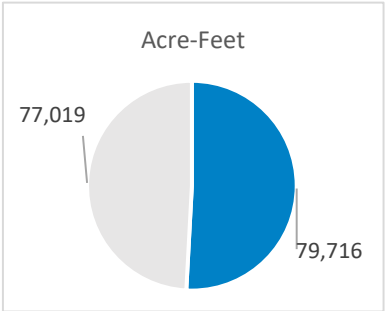
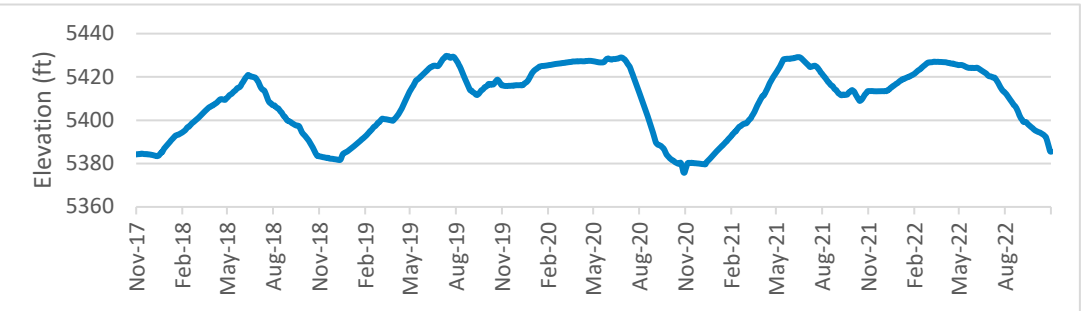
November 1, 2022



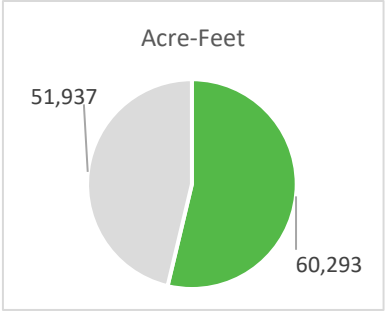
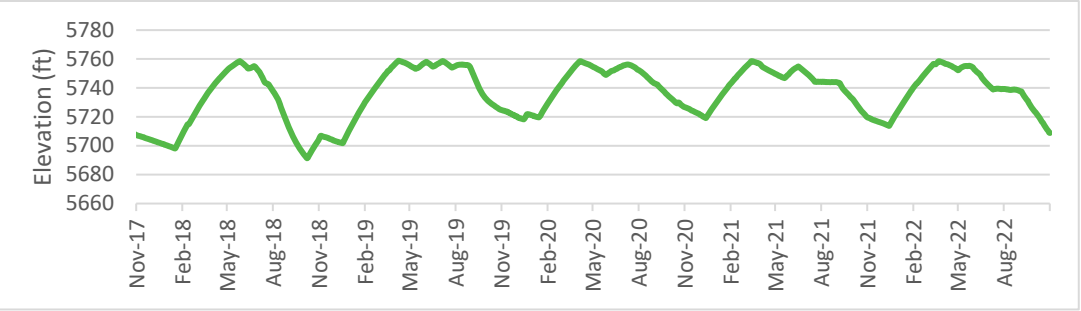
Lake Granby Storage in Lake Granby increased 2,143 acre-feet last month



Horsetooth Reservoir Storage in Horsetooth Reservoir decreased 14,743 acre-feet last month



Carter Lake Storage in Carter Lake decreased 14,494 acre-feet last month

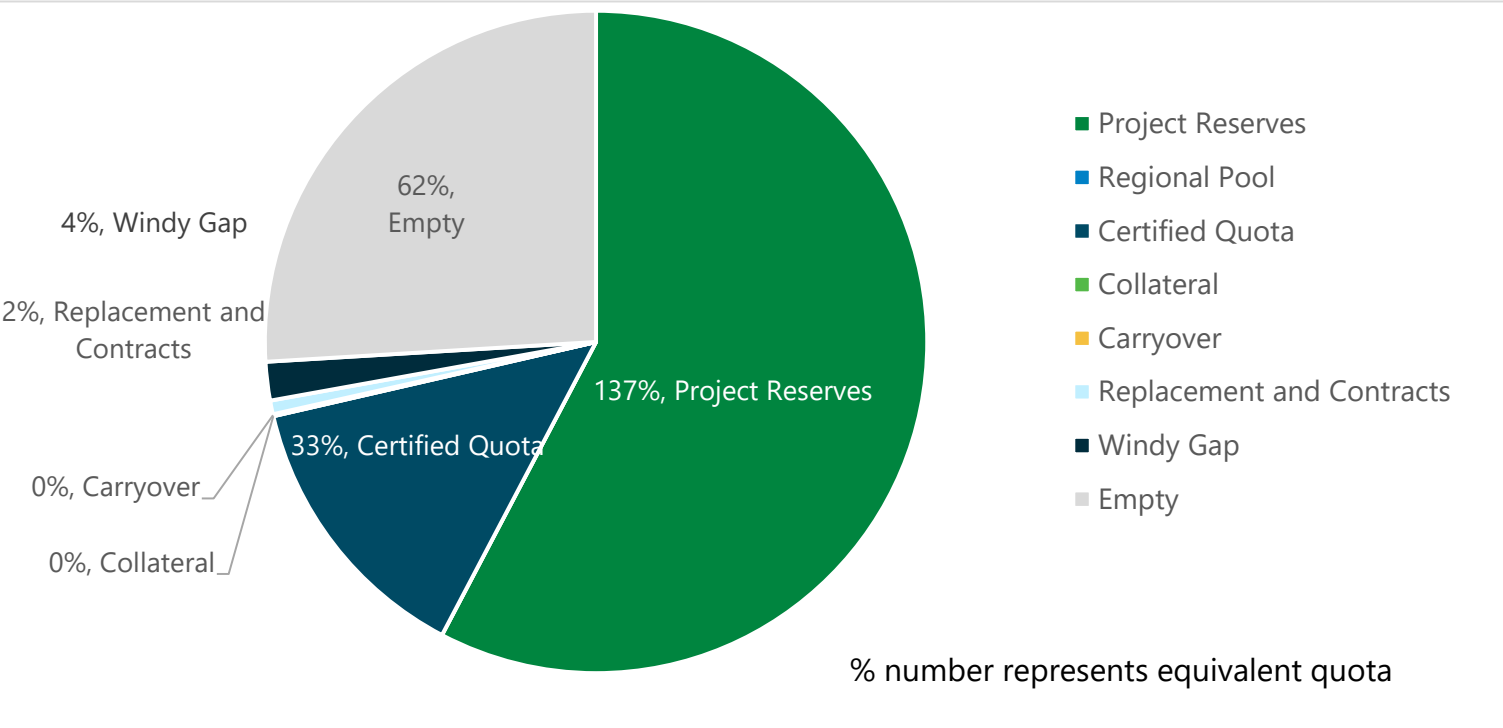


C-BT Project Allocated Water

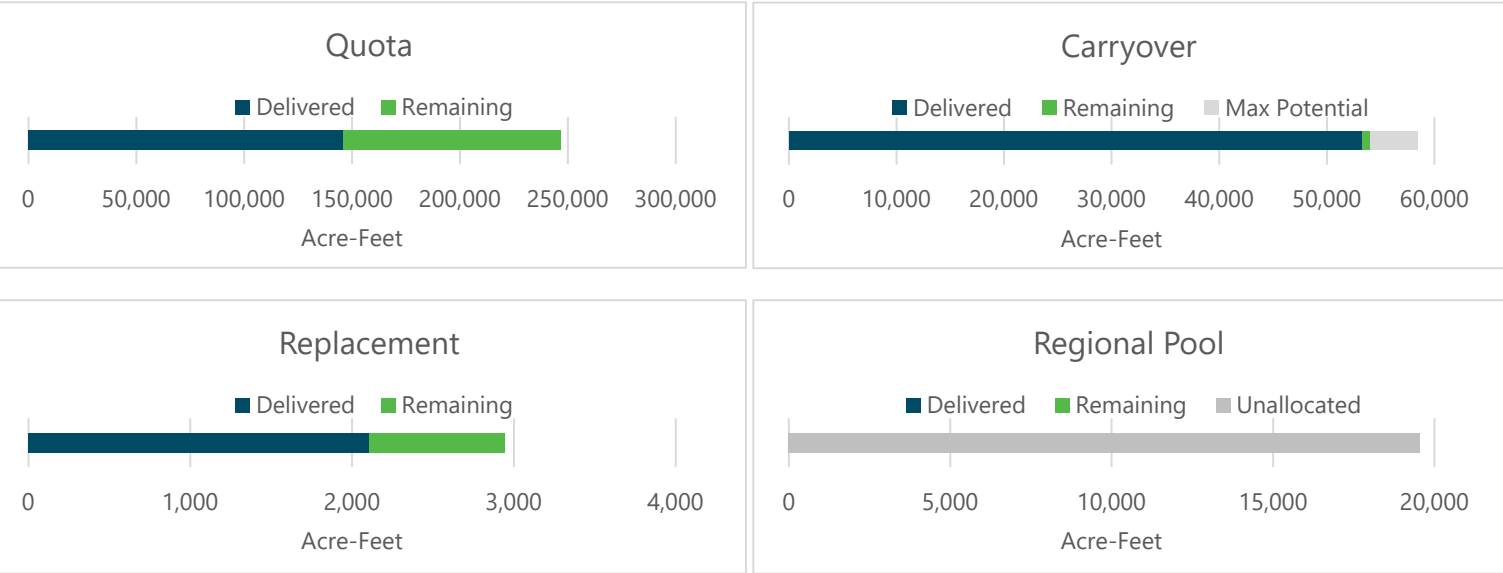
October 31, 2022



C-BT Active Storage



C-BT Delivery Obligations



Notes:

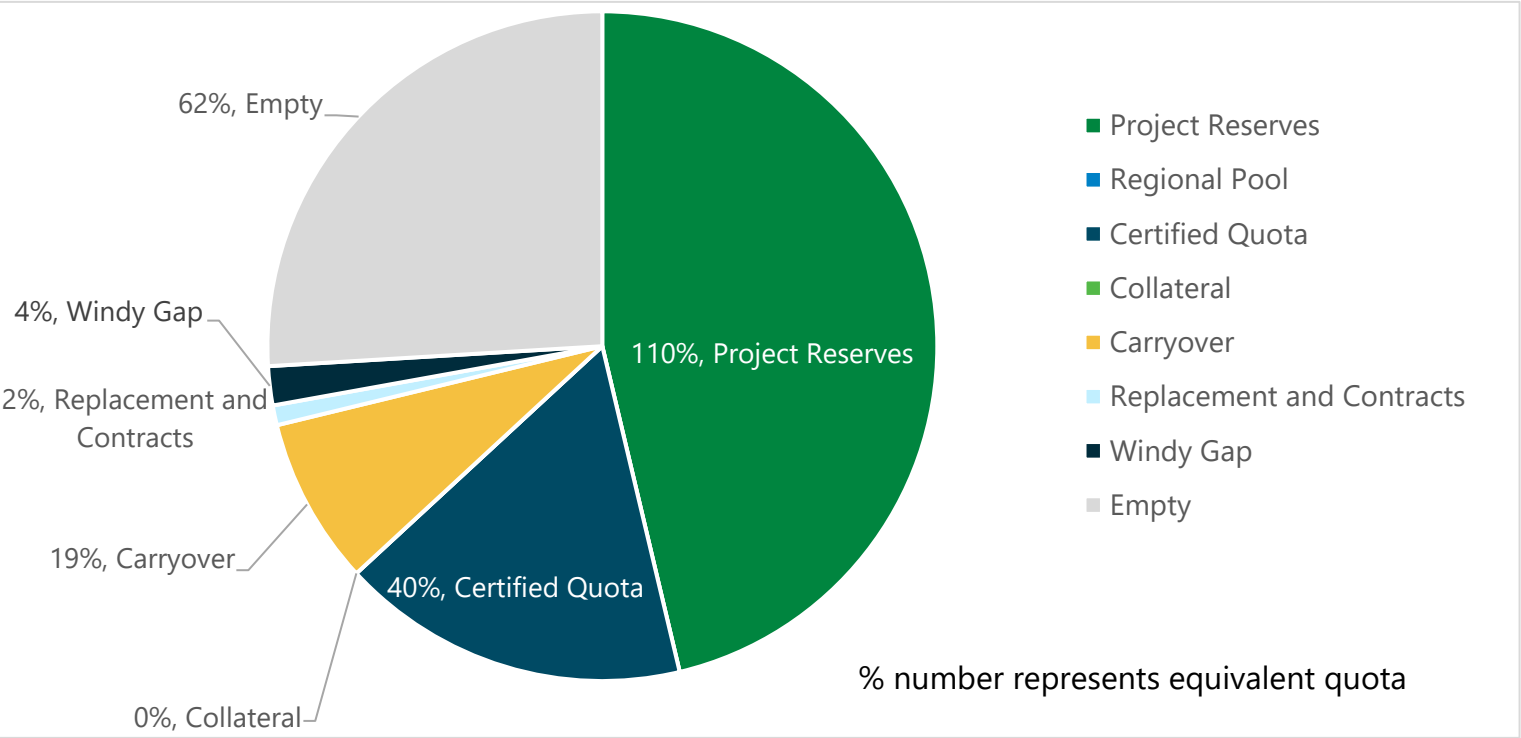
- 1) Quota set at 80%
- 2) Carryover - Entites certified 54,014 Acre-Feet of Carryover for WY2022. for Carryover so that adequate supplies are set aside to fulfill all potential obligations.
- 3) Regional Pool - Additional water acrued to the Regional Pool on April 30, 2022. There is 19,547 Acre-Feet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

C-BT Project Allocated Water

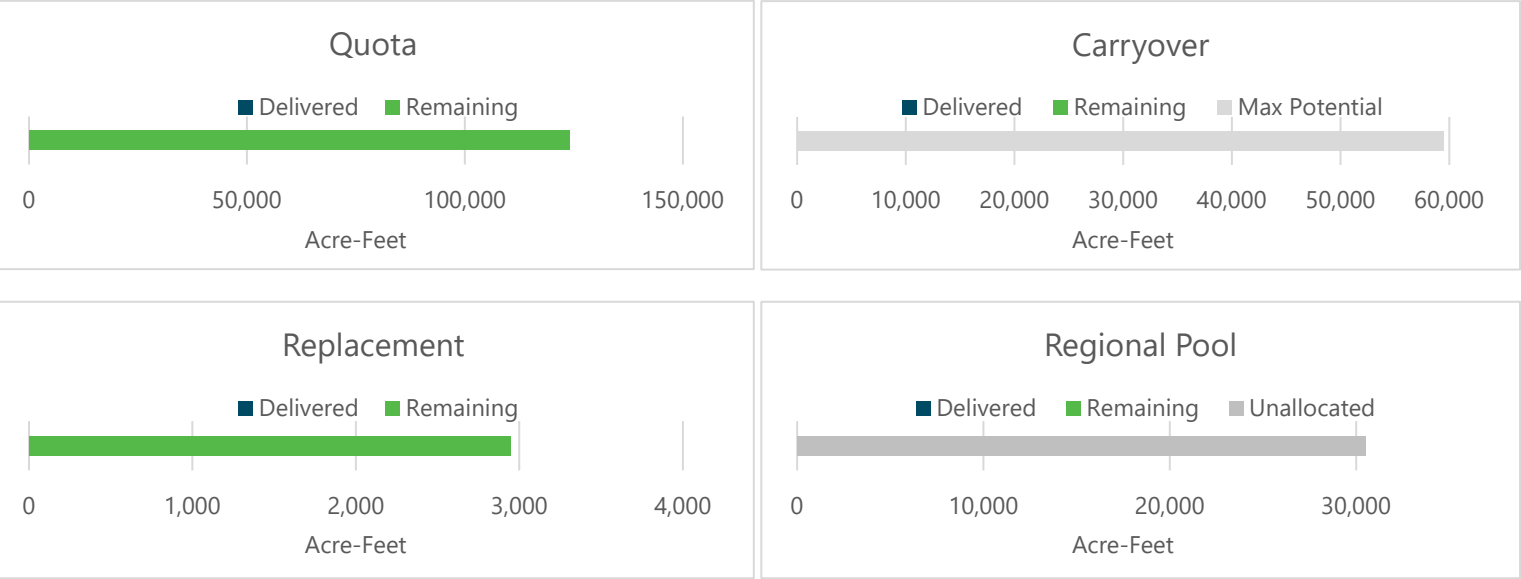
November 1, 2022 Preliminary Data



C-BT Active Storage



C-BT Delivery Obligations

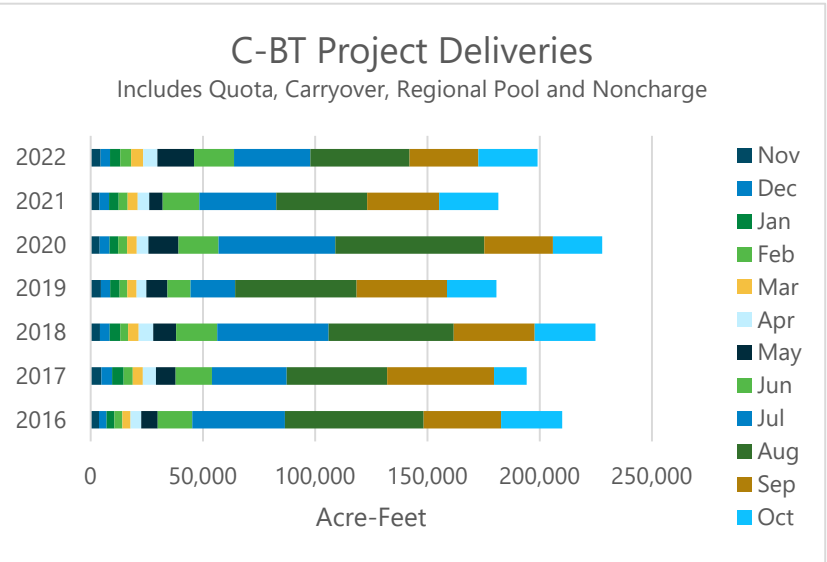
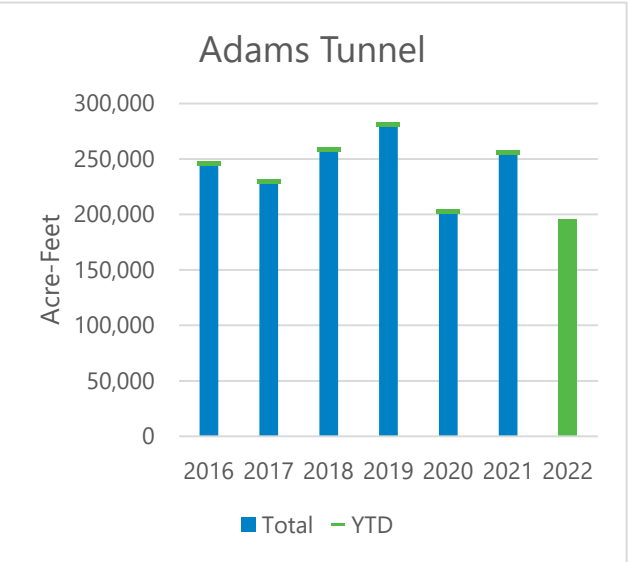


Notes:

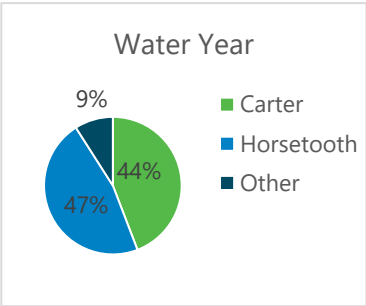
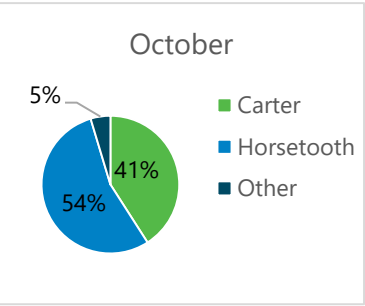
- 1) Initial Quota set at 40%
- 2) Carryover - Carryover will not be certified until April 30. Until that date, the Maximum Potential Carryover is reported for so that adequate supplies are set aside to fulfill all potential obligations.
- 3) Regional Pool - Additional water will accrue to the Regional Pool until April 30. The current volume reflects water supplies not eligible for the Carryover Program.

C-BT Project Deliveries

November 1, 2022



Deliveries by Area



Deliveries by Use

