



Utilities

electric · stormwater · wastewater · water
700 Wood Street
PO Box 580
Fort Collins, CO 80522

970.212.2900

V/TDD: 711

utilities@fcgov.com

fcgov.com/utilities

M E M O R A N D U M

DATE: June 8, 2022
TO: Water Commission
FROM: Michael Neale, MSc, Water Resources Engineer
RE: **May 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 May 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 May, water supply consisted of 85% from Horsetooth supplies and 15% from the Poudre.
- Water Demand – Demands within the Water Utility service area for the month of May were above projected, at 112% of projected demand. Please refer to the attached graphs and tables.

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: 72 °F.
 - 30-year average daily high temperature for the month is: 69 °F.
- Total recorded monthly precipitation: 2.37 inches.
 - 30-year average precipitation for the month: 2.75 inches.

Reservoir Storage: Northern has allocated a quota of 80% for the 2022 water year. As of June 1st and presented in the Northern District Storage and Delivery Report:

- Colorado-Big Thompson project reservoirs (Granby, Carter, and Horsetooth): 84% full.
- Horsetooth Reservoir: 92% full.
- Joe Wright Reservoir: 85% full (106% of average based on 14 years of data).

Snowpack: Natural Resources Conservation Service SNOTEL program percent of 1991-2020 median snow water equivalent as of 06/08/2022:

- Upper Colorado River Basin: 68% of median.
- South Platte Basin: 114% of median.



- Poudre Basin 5-site average snow water equivalent is currently 4.3 inches, 167% of the 1991-2020 combined median.

Poudre River flow: Northern Water forecasts an Apr-Jul most probable streamflow of 90% of average. See Snowpack and Streamflow Comparisons report attached. 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 and upper South Platte basin are abnormally dry at this time.
- 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:

- Water treatment experienced high turbidity in the Poudre and shut off the intake over an 11 day span in May. The Water Treatment Facility has been taking less than average from the Poudre since May 22nd and will gradually increase Poudre intake as conditions improve.
- Staff has projected our total 2022 water year diversion off the Poudre at 60% of average. This due to potential burn area impacted runoff from summer rains that can make Poudre supplies undesirable for treatment.
- NPIC has increased the Municipal Use allotment from 2.25 to 2.75 AF/share, increasing our C-BT supplies by about 1,800 AF . Also, we have received an additional 1,000 AF of Windy Gap water from Platte River Power Authority as part of our Reuse Plan. Our Horsetooth supplies alone are now sufficient to meet our remaining demands through the water year, including maximizing our CBT carryover for use in 2023.

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%.

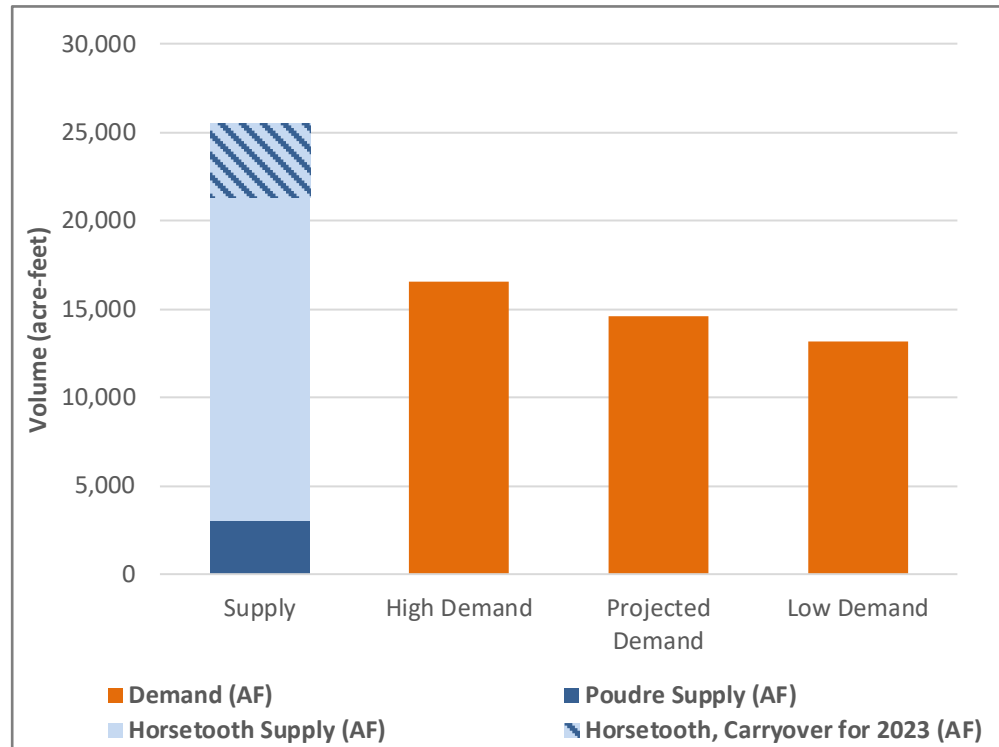
Horsetooth Reservoir

- 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

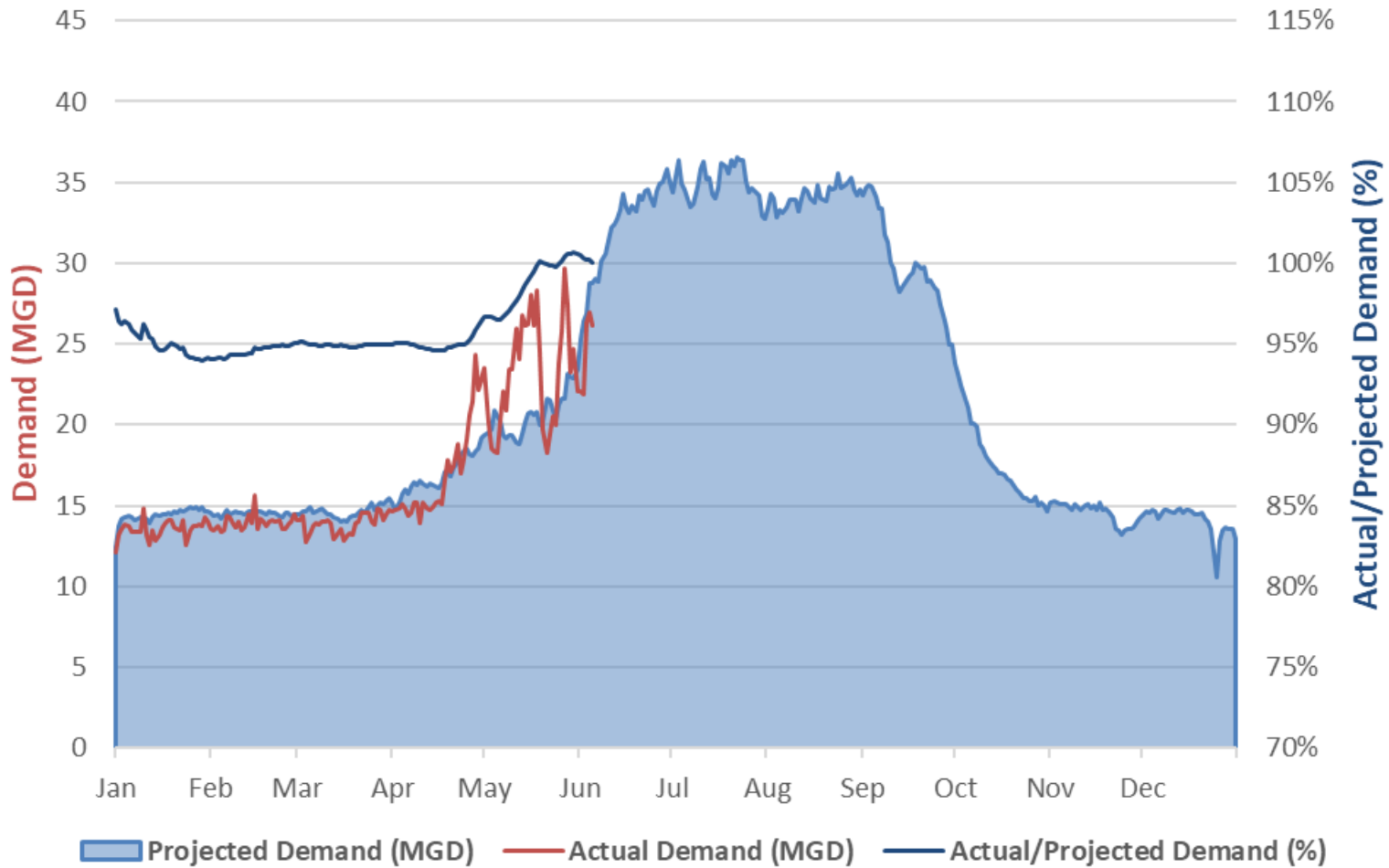
- Max amount allowable is 4,190 AF before 10% shrink

Remaining Water Demand and Supply from June 08 - October 31, 2022

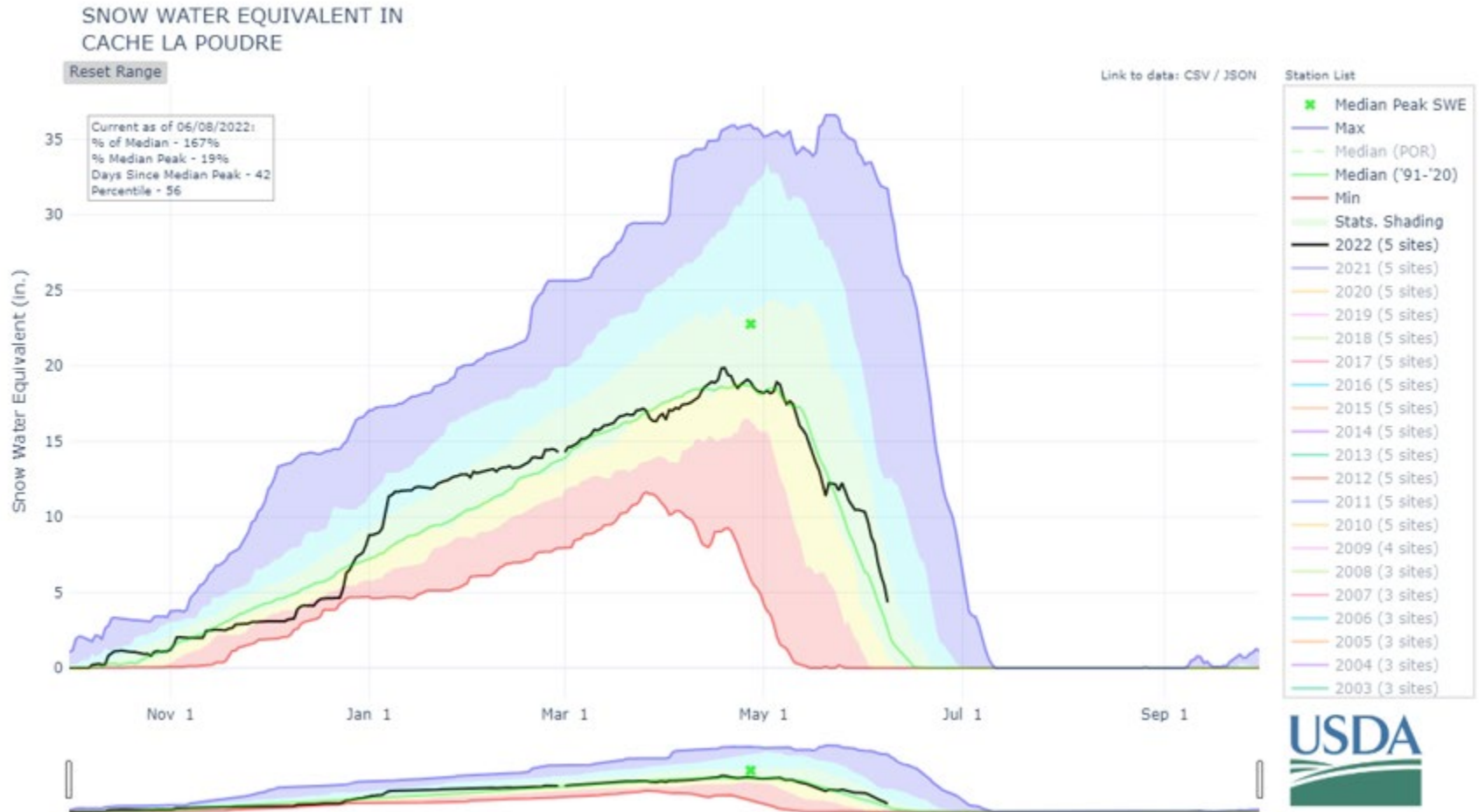


Scenario	Demand (AF)	Poudre Supply (AF)	Horsetooth Supply (AF)	Horsetooth, Carryover for 2023 (AF)
Supply	--	3,025	18,308	4,190
High Demand	16,583	--	--	--
Projected Demand	14,578	--	--	--
Low Demand	13,183	--	--	--

2022 Fort Collins Utilities Treated Water Demands



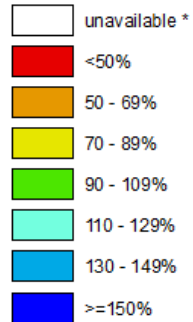
Upper Cache la Poudre Basin SNOTEL - Daily time series for water year 2022



Jun 07, 2022

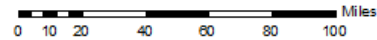
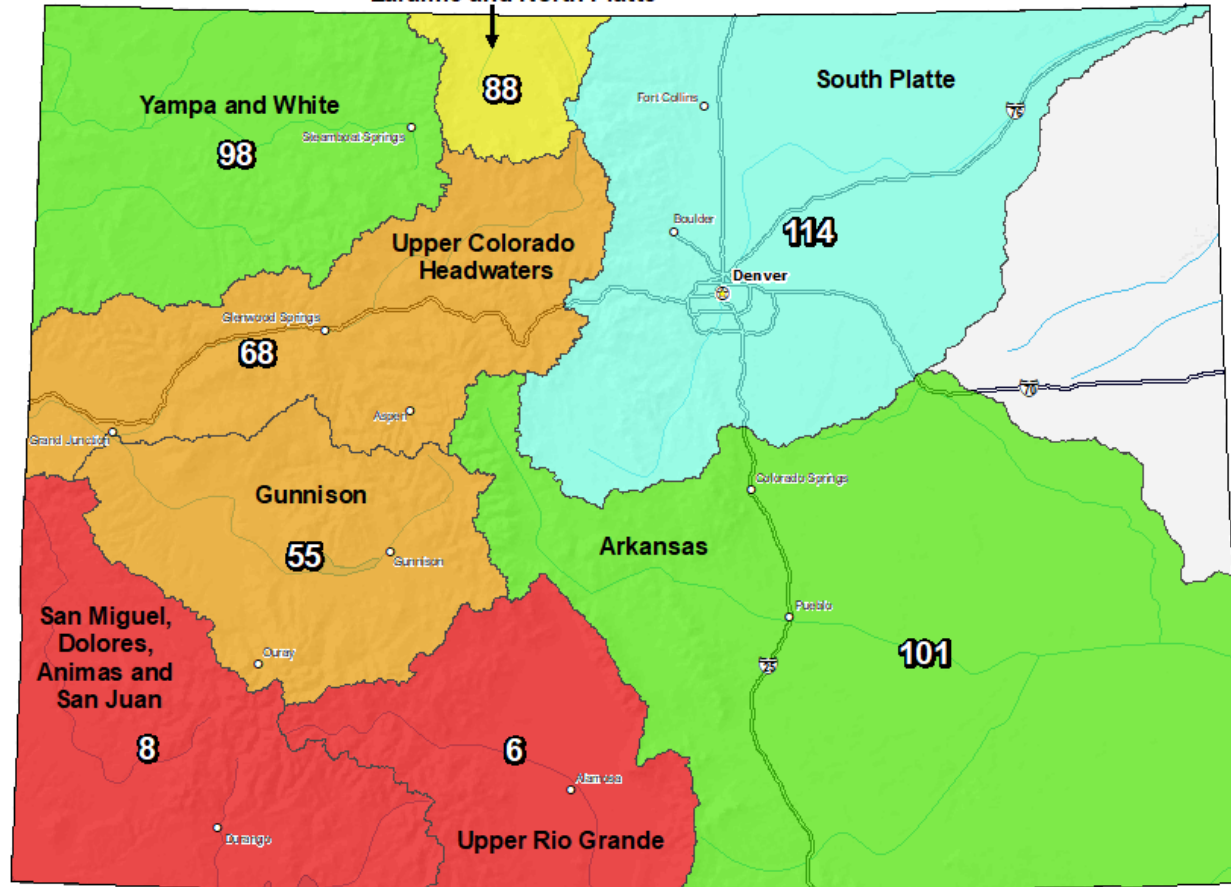
Colorado
SNOTEL Current Snow Water Equivalent (SWE) % of Normal
 Laramie and North Platte

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1991-2020 Median



* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional Data
 Subject to Revision

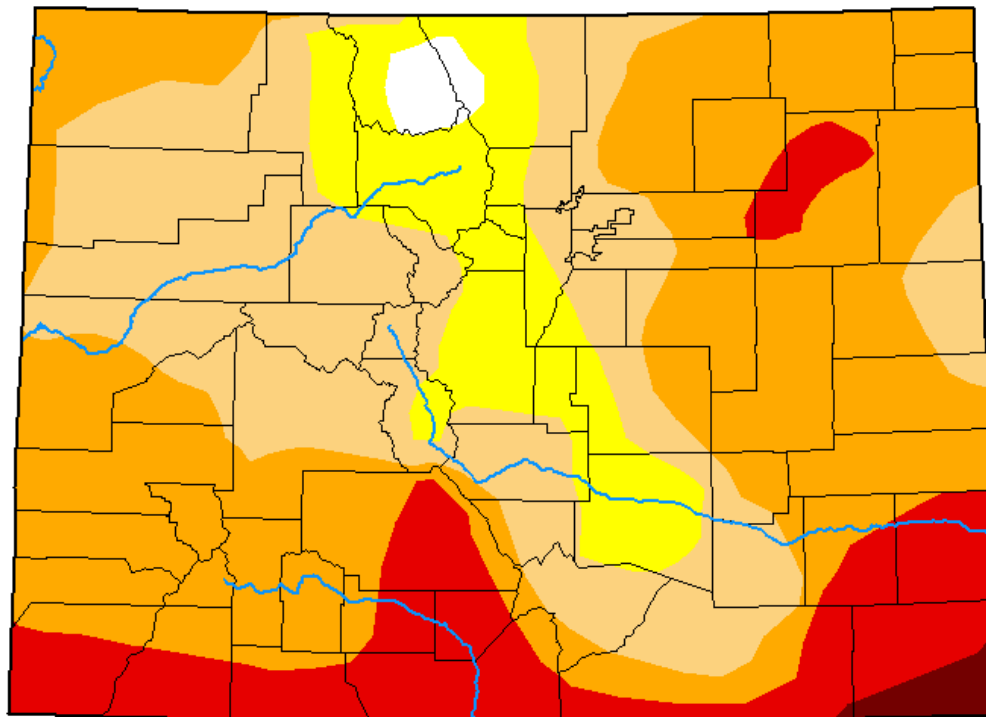


The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).







Prepared by:
 USDA/NRCS National Water and Climate Center
 Portland, Oregon
<https://www.nrcs.usda.gov/wps/portal/wco/home/>

U.S. Drought Monitor Colorado

May 31, 2022
(Released Thursday, Jun. 2, 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:

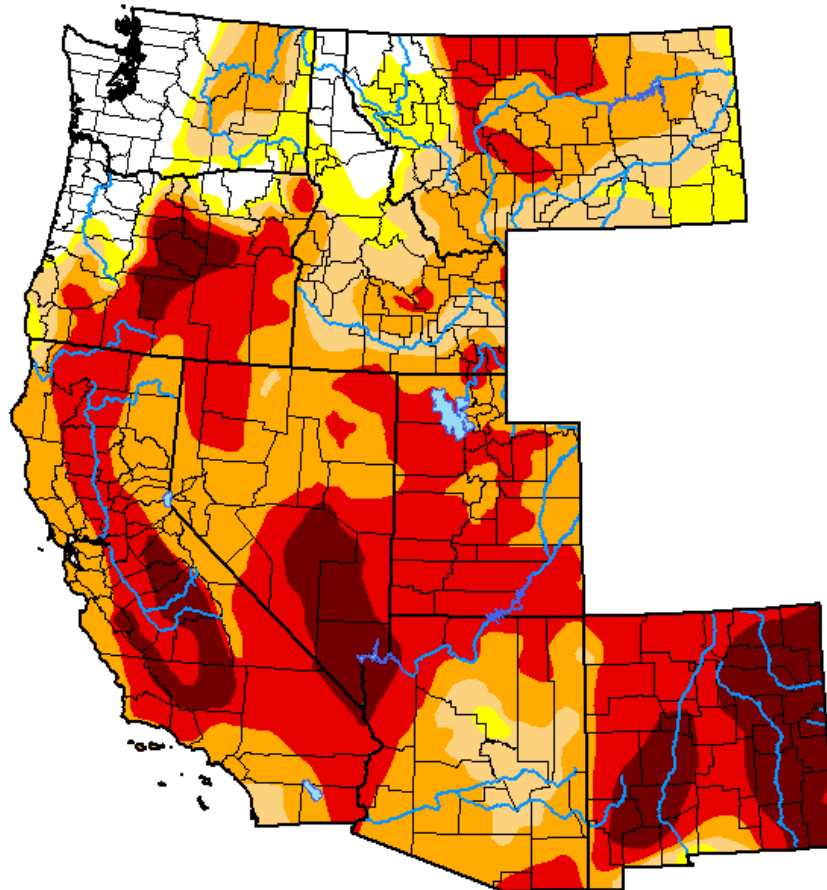
Curtis Riganti
National Drought Mitigation Center









droughtmonitor.unl.edu

U.S. Drought Monitor West

May 31, 2022
(Released Thursday, Jun. 2, 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:

Curtis Riganti
National Drought Mitigation Center



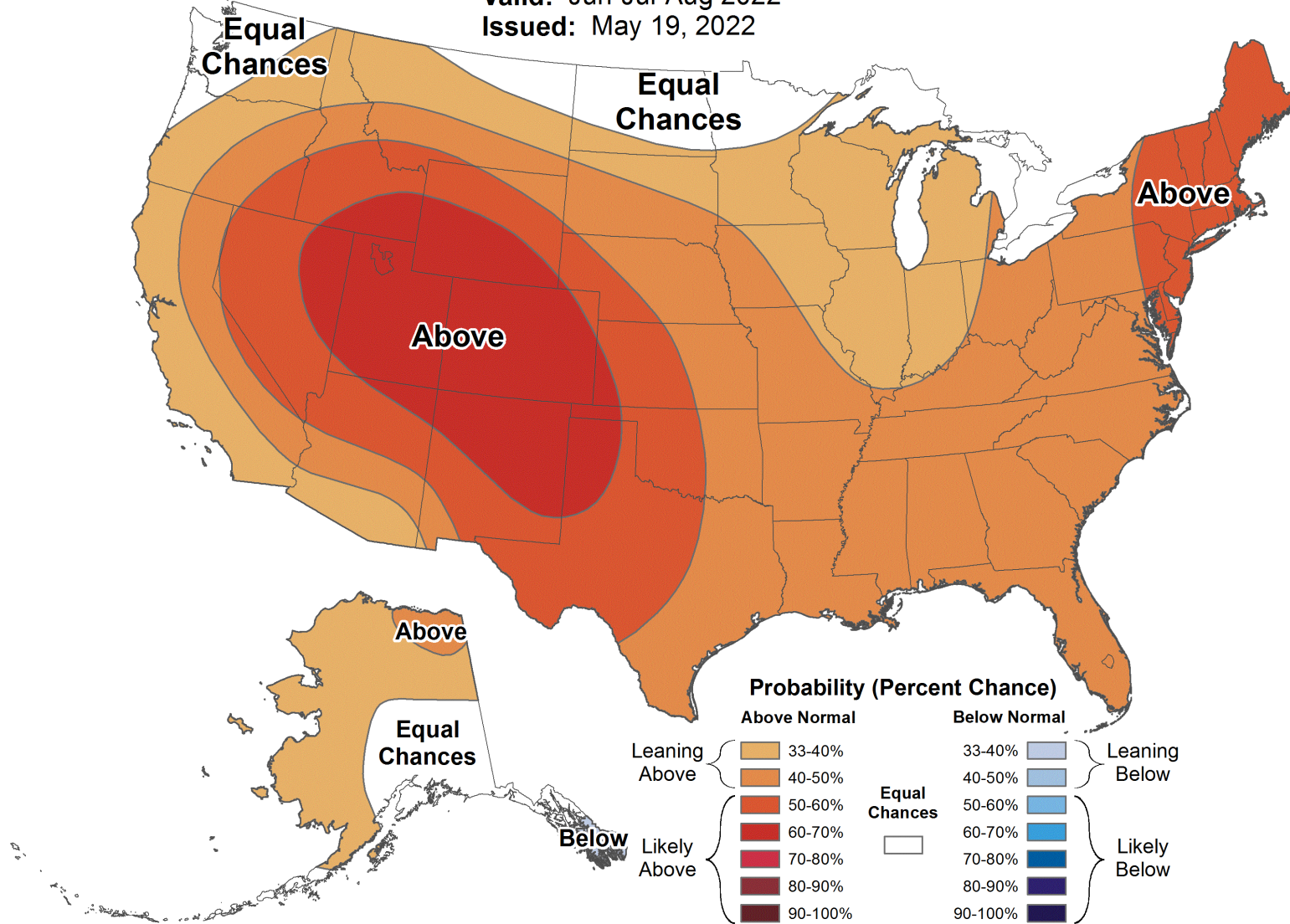
droughtmonitor.unl.edu



Seasonal Temperature Outlook



Valid: Jun-Jul-Aug 2022
 Issued: May 19, 2022

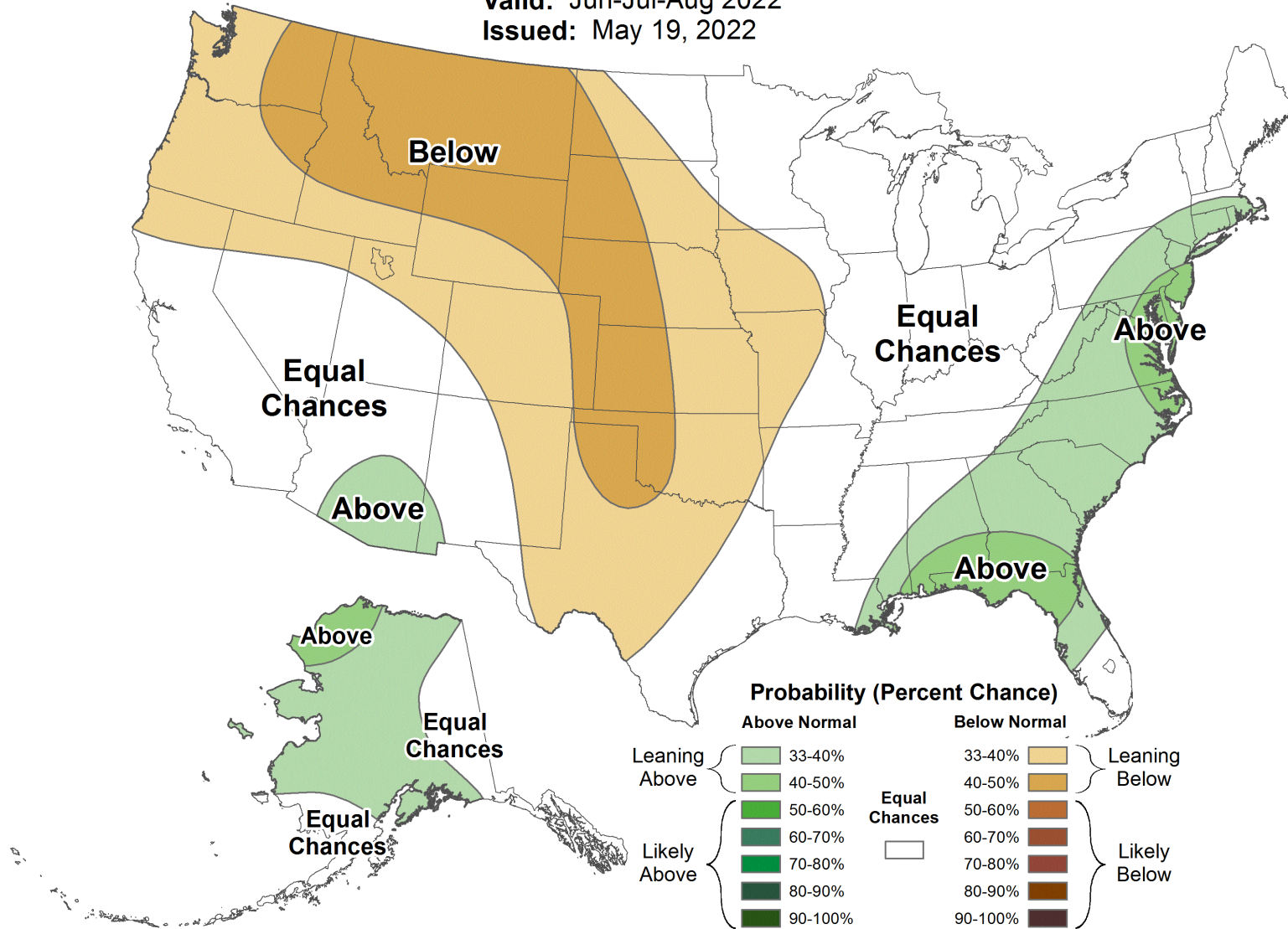




Seasonal Precipitation Outlook

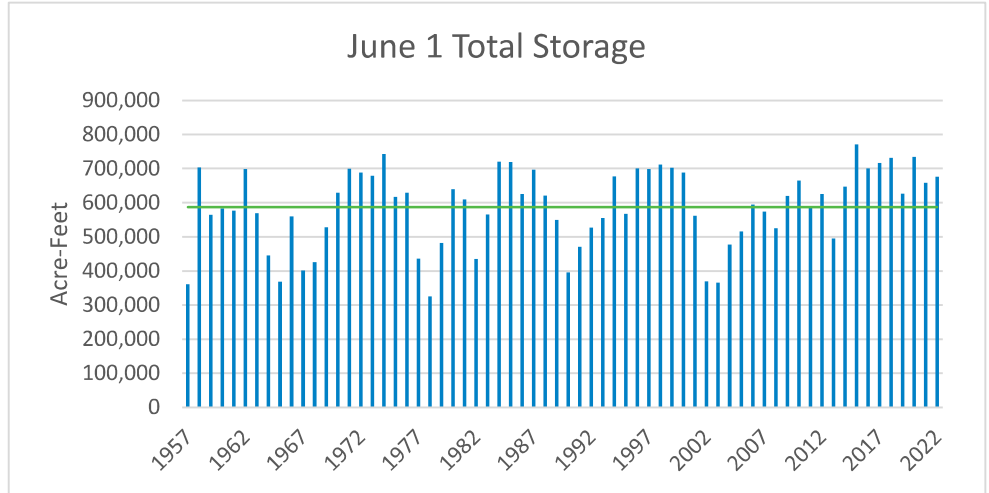
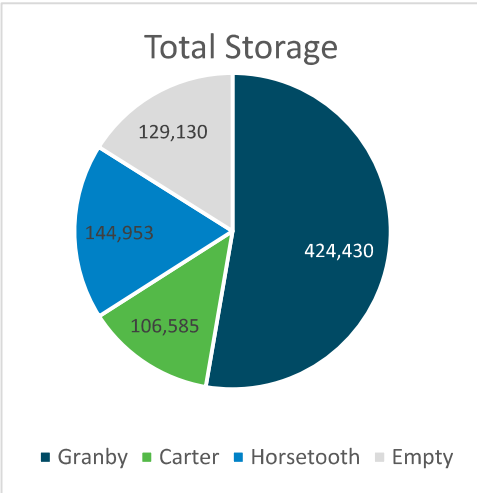


Valid: Jun-Jul-Aug 2022
 Issued: May 19, 2022

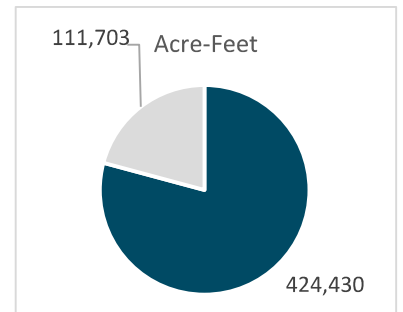
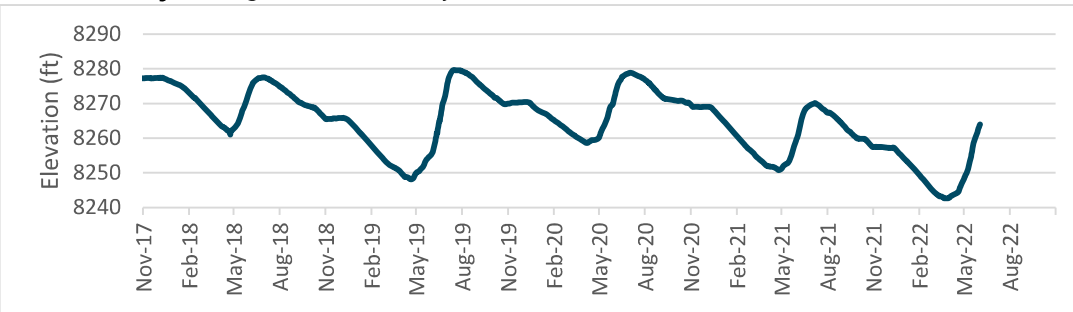


C-BT Project Storage

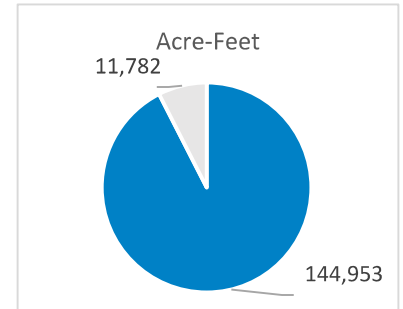
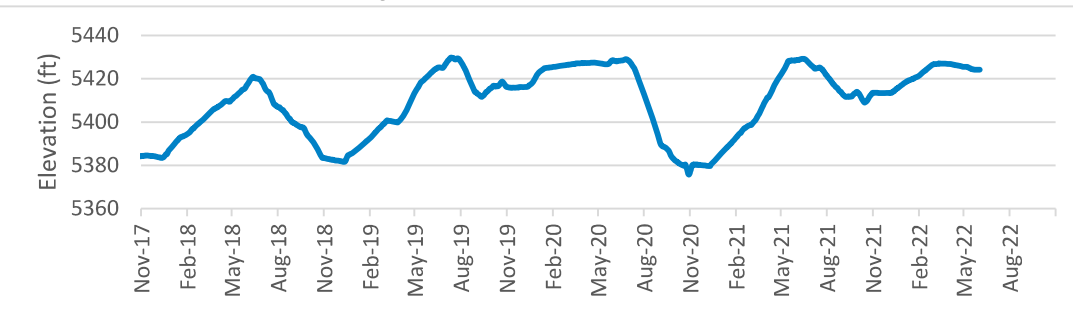
June 1, 2022



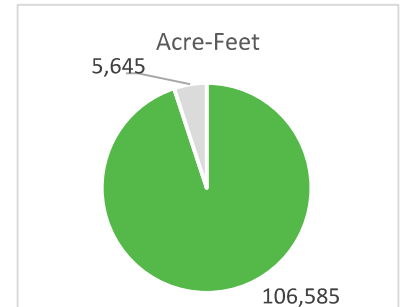
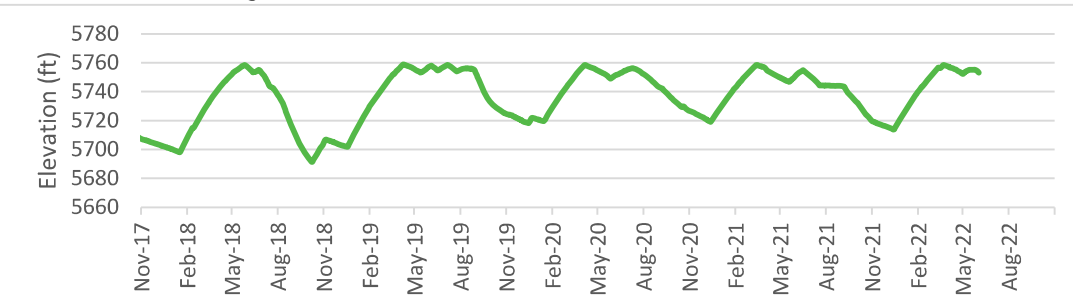
Lake Granby Storage in Lake Granby increased 93,140 acre-feet last month



Horsetooth Reservoir Storage in Horsetooth Reservoir decreased 2,592 acre-feet last month



Carter Lake Storage in Carter Lake increased 1,771 acre-feet last month

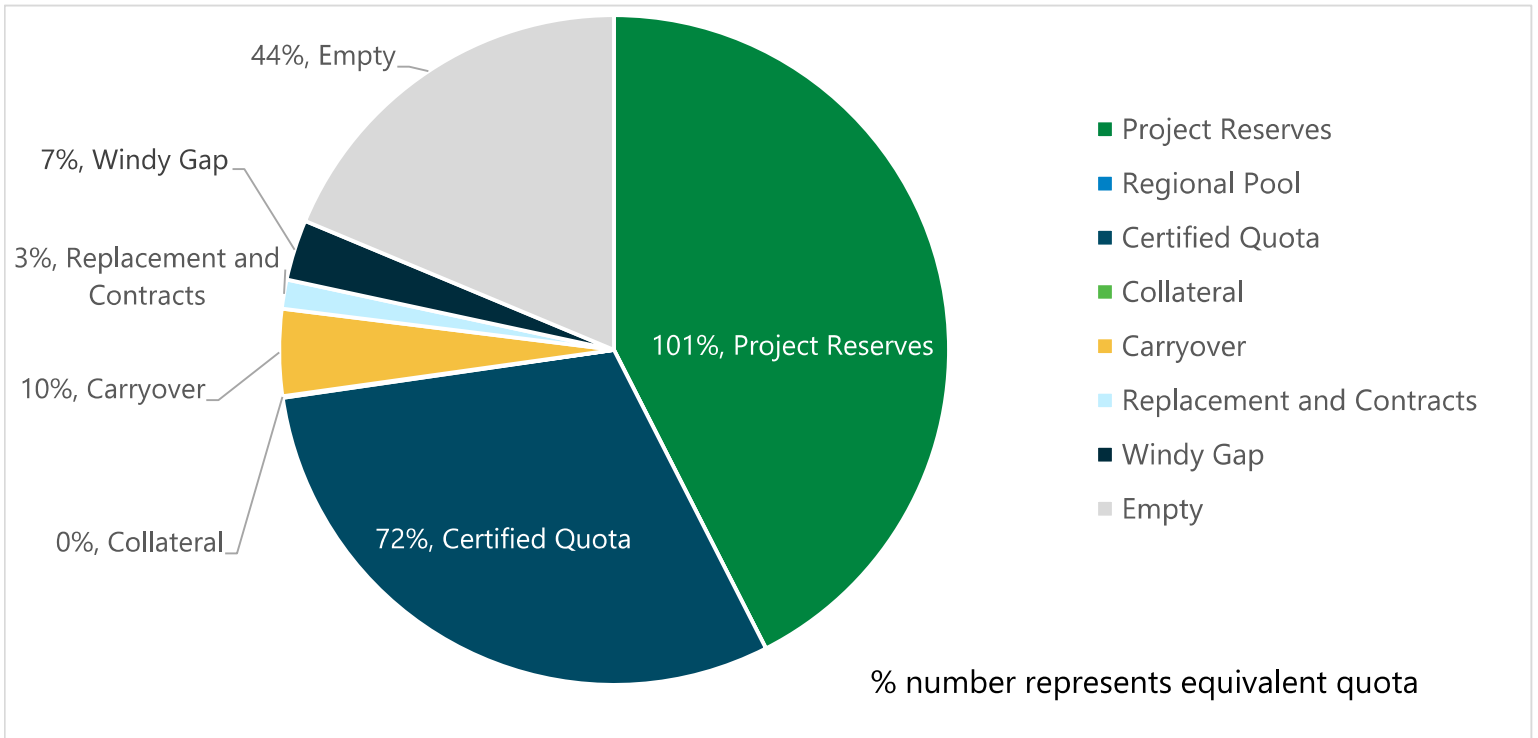


C-BT Project Allocated Water

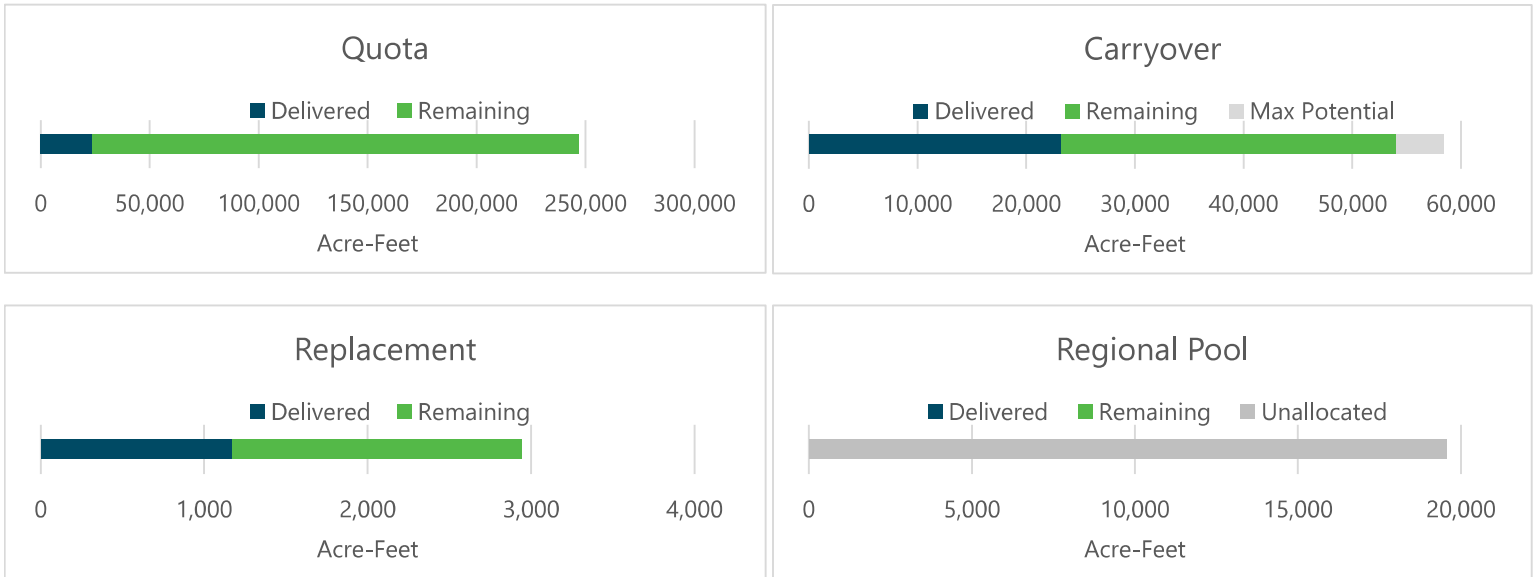
June 1, 2022



C-BT Active Storage



C-BT Delivery Obligations

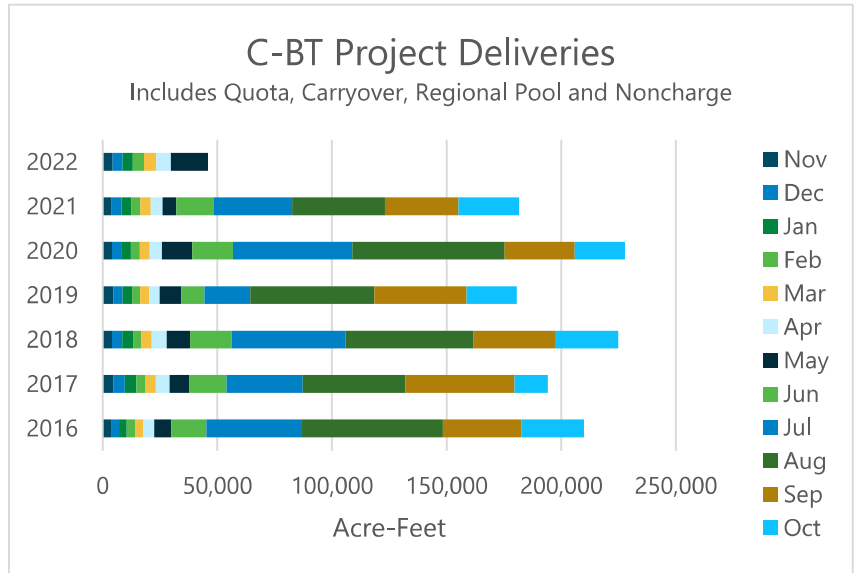
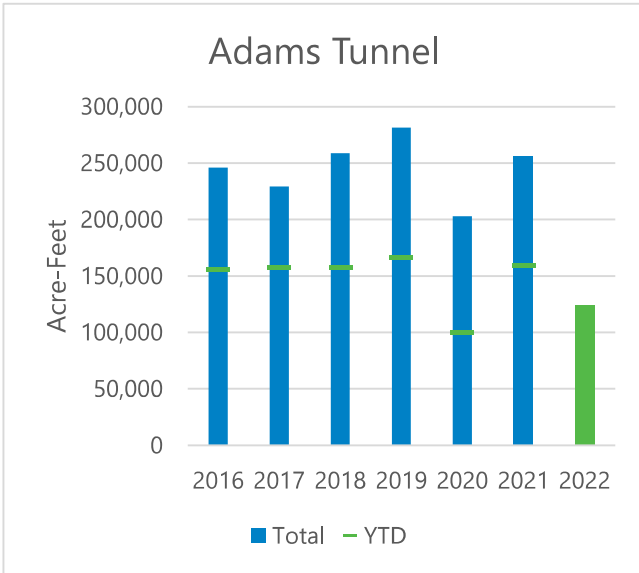


Notes:

- 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

June 1, 2022



Deliveries by Area

Deliveries by Use

