



Utilities

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MEMORANDUM

DATE: May 10, 2021

TO: Water Commission

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

RE: April 2021 Water Resources Division Staff Report

Purpose

This memorandum is intended to update the Water Board on water resource conditions for the City of Fort Collins Water Utility (Water Utility) over the month of April.

Water Resources Summary

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

The conditions measured at the Fort Collins 053005 weather station for the month:

- Mean daily high temperature recorded for the month: 61.4 °F.
 - Long term average daily high temperature for the month is: 60.7 °F.
- Total recorded monthly precipitation: 2.15 inches.
 - Long term average precipitation for the month: 1.97 inches.

Water Demand: Water demands within the Water Utility service area for the month:

- Water demand for the month: 87.8% of the projected demand.
- Water demand for calendar year: 98.0% of the projected demand.

Reservoir Storage: (See attached sheet)

- Colorado-Big Thompson project reservoirs (Granby, Carter, and Horsetooth): 74% full
- Horsetooth Reservoir: 89% full.
- Joe Wright Reservoir: 68% full (106% of average based on 13 years of data).

Snowpack: May is the last report for the water year

<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/co/snow/products/?cid=nrcseprd1432263>

Natural Resources Conservation Service SNOTEL program percent of average snow water equivalent totals as of 05/10/2021:

- Headwaters Colorado Basin: 82% of average.
- Poudre Basin: 99% of average.

Drought Monitor: <https://www.drought.gov/states/colorado>

- The U.S. Drought Monitor shows Larimer County as mostly not in drought to moderately dry. https://climate.colostate.edu/drought_info.html

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.

2021 Water Supply Considerations:

- The Cameron Peak and East Troublesome Fires will likely impact Utilities water availability in 2021 and subsequent years.
- Utilities staff is monitoring the potential impacts to both the Poudre River basin and the CBT project system from these fires, which may be exacerbated if drought conditions persist in the region.
- 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).

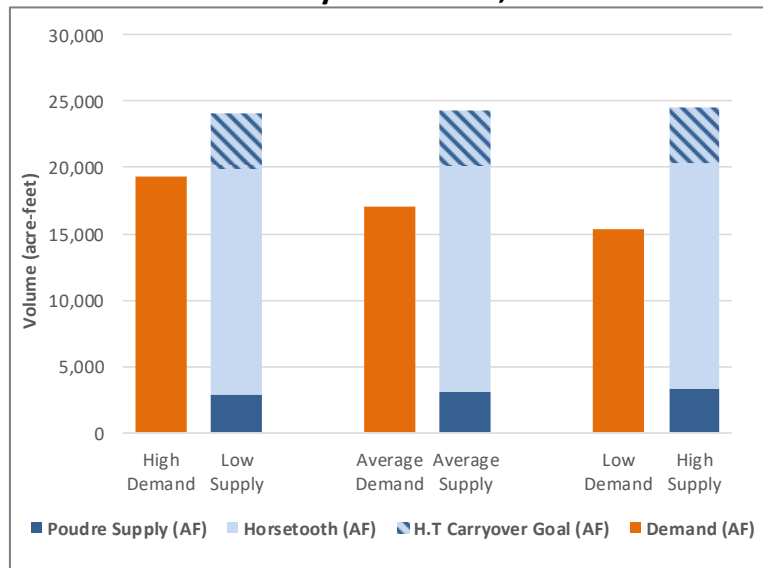
Horsetooth Reservoir

- 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

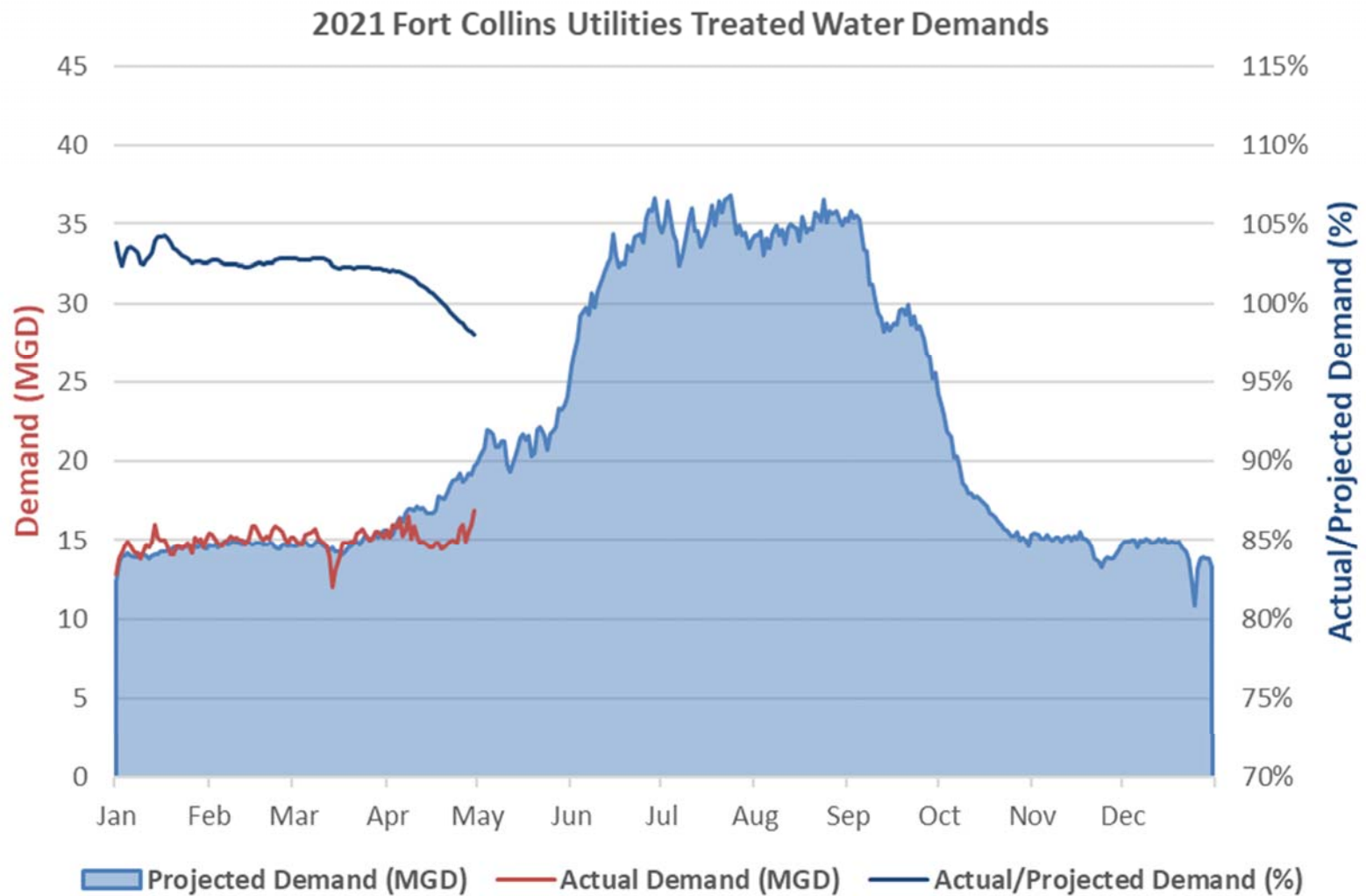
Remaining Water Demand and Supply from May 09 - Oct 31, 2021



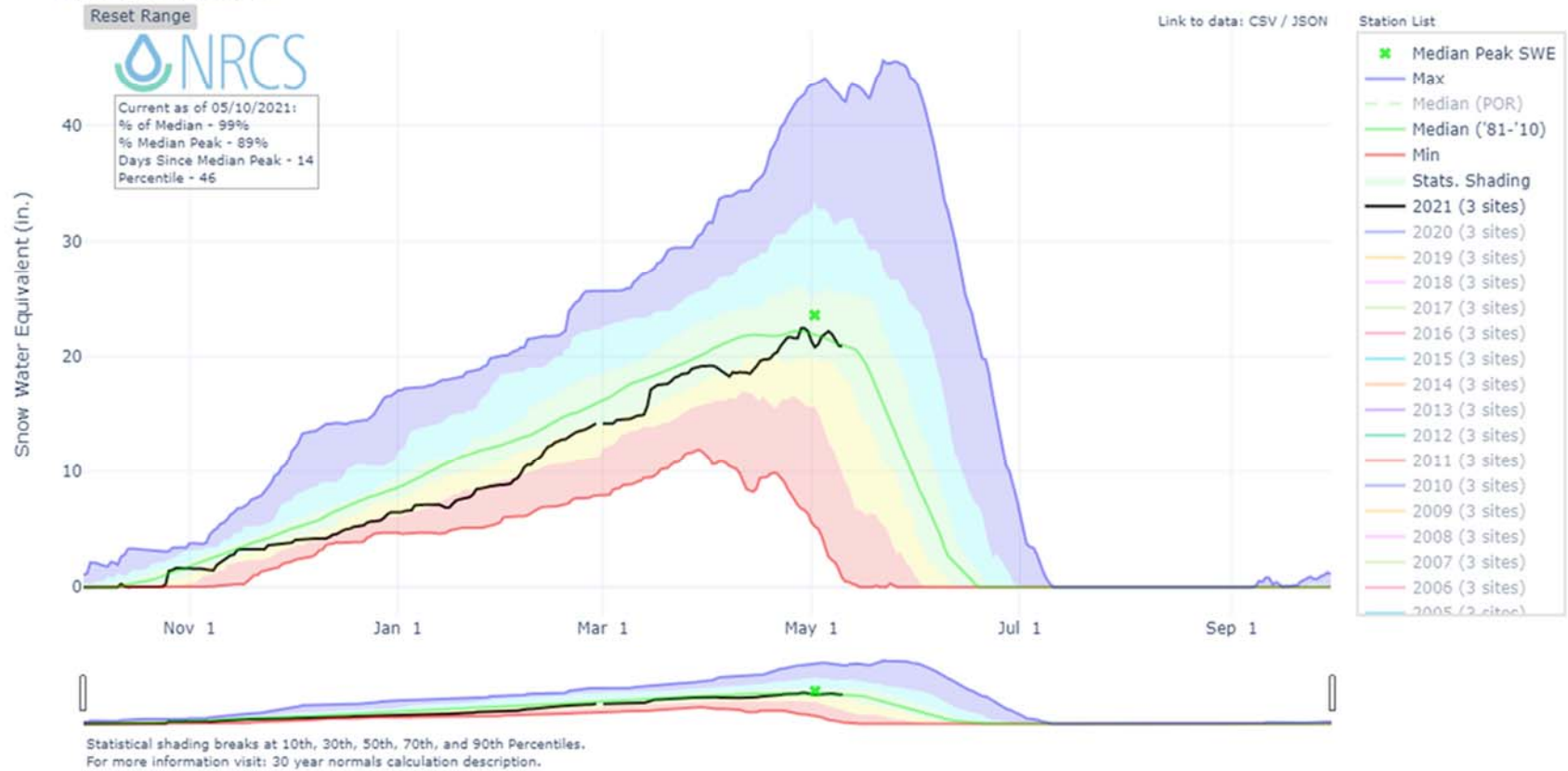
Scenario	Demand (AF)	Poudre Supply (AF)	Horsetooth (AF)	H.T Carryover Goal (AF)
High Demand Low Supply	19,356	2,806	17,031	4,190
Average Demand Average Supply	17,033	3,118	17,031	4,190
Low Demand High Supply	15,397	3,282	17,031	4,190

NOTES:

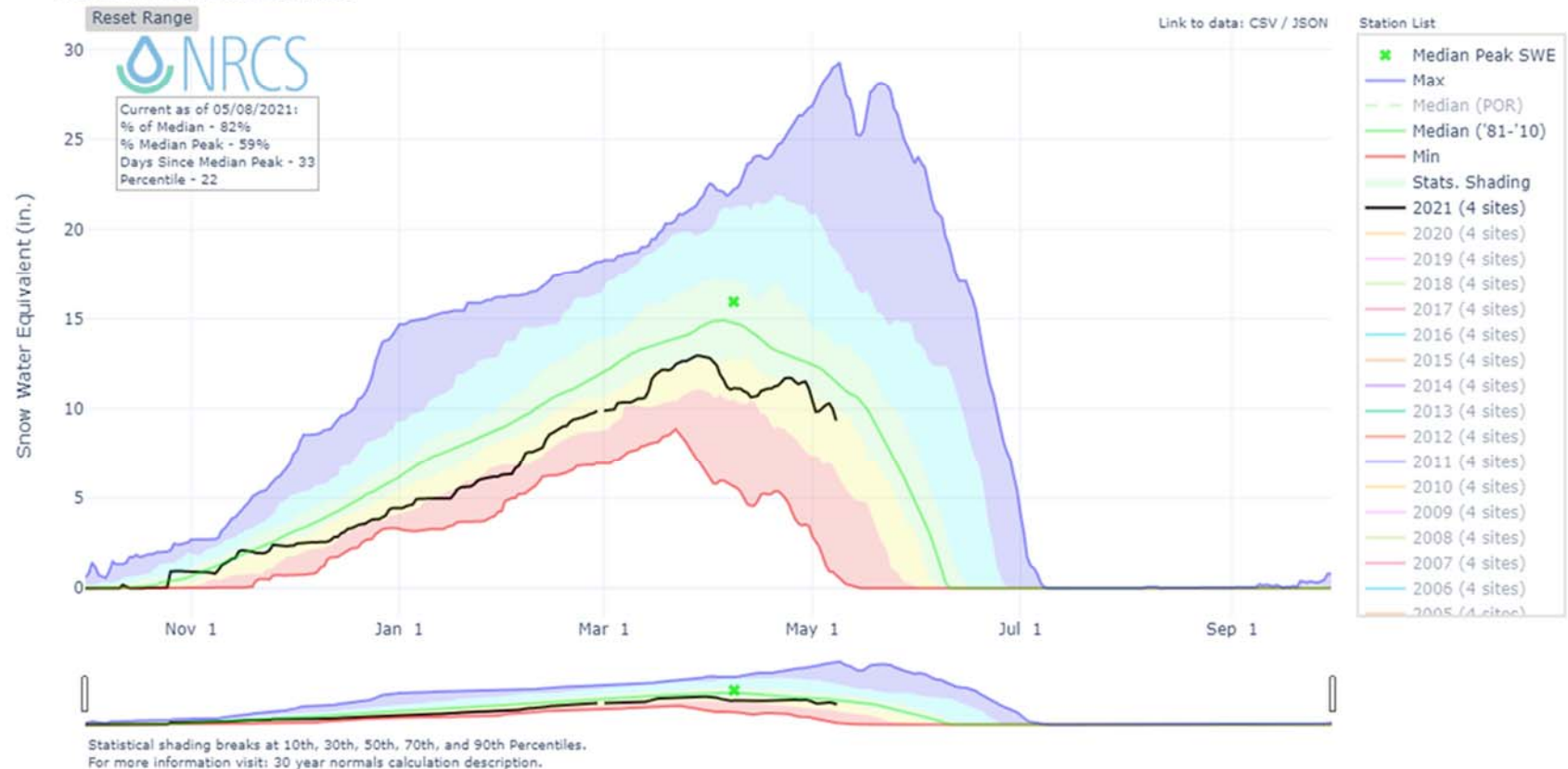
MGD = million gallons per day; PVP = Pleasant Valley Pipeline; CBT = Colorado-Big Thompson Project; NPIC = North Poudre Irrigation Company; MU = Multiple Use (NPIC allocation of CBT water, measured in acre-feet per share); AF = acre-feet



SNOW WATER EQUIVALENT IN CACHE LA POUDRE

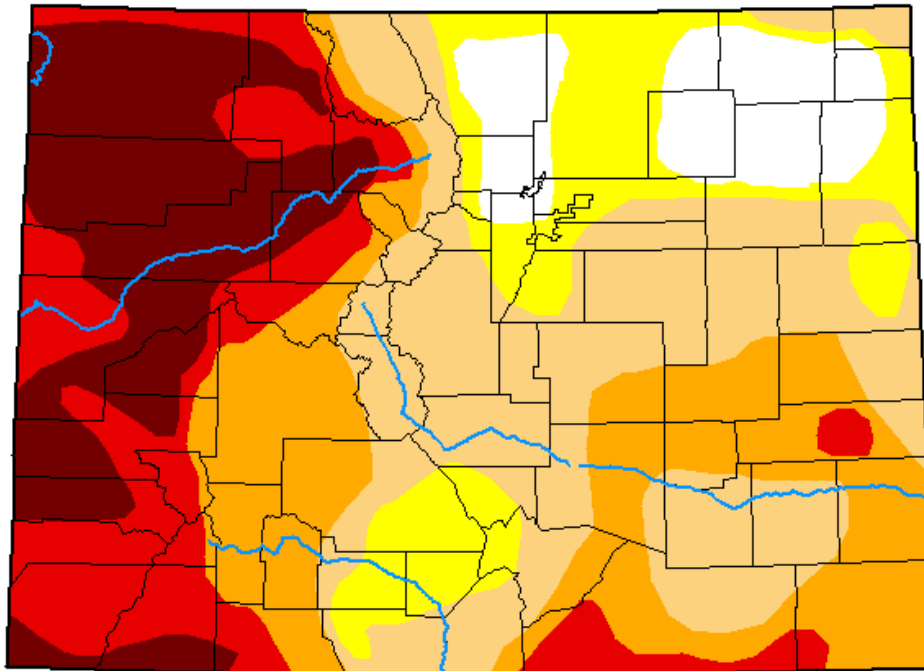


SNOW WATER EQUIVALENT IN HEADWATERS COLORADO



U.S. Drought Monitor Colorado

May 4, 2021
(Released Thursday, May. 6, 2021)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	7.84	92.16	79.86	51.85	31.01	16.39
Last Week 04-27-2021	1.19	98.81	89.13	60.45	32.13	16.68
3 Months Ago 02-02-2021	0.00	100.00	100.00	90.24	70.73	24.79
Start of Calendar Year 12-29-2020	0.00	100.00	100.00	93.73	76.17	27.60
Start of Water Year 09-29-2020	0.00	100.00	99.29	89.35	52.88	2.64
One Year Ago 05-05-2020	23.79	76.21	61.83	40.72	11.34	0.00

Intensity:

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

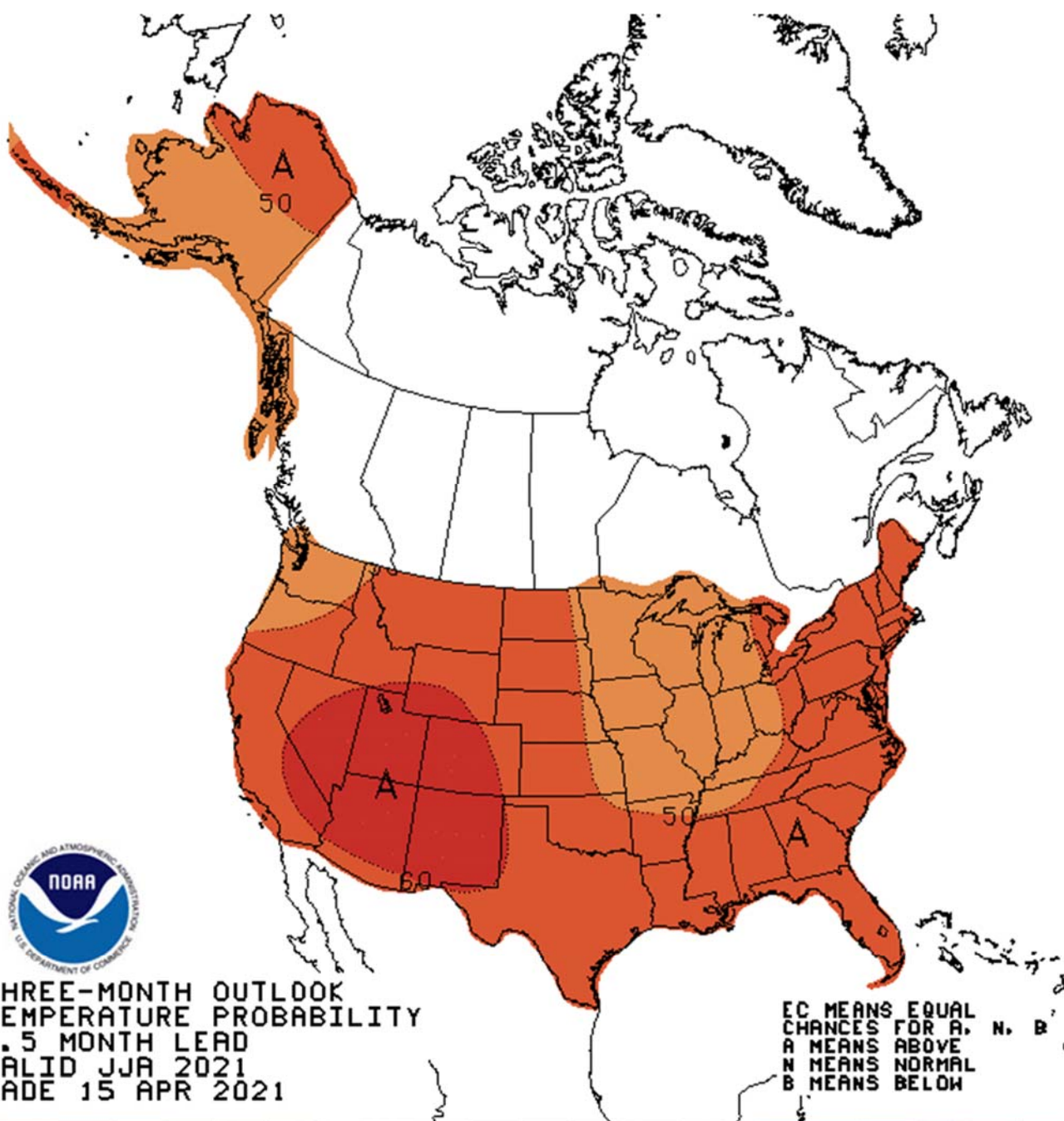
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

David Simeral
Western Regional Climate Center

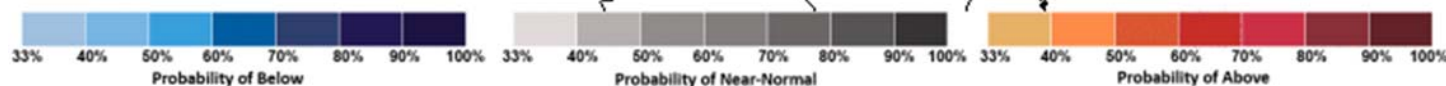


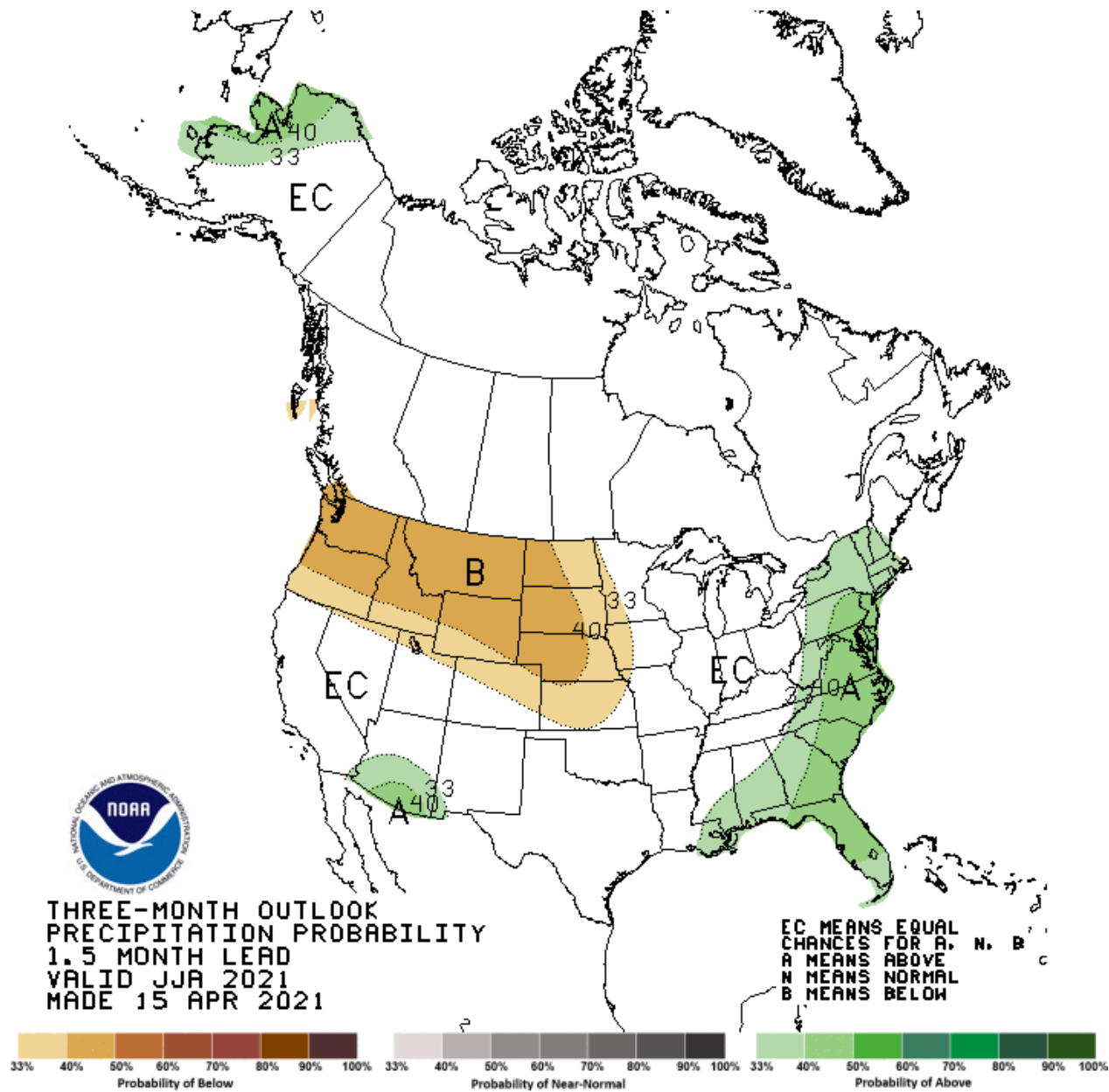
droughtmonitor.unl.edu



THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
1.5 MONTH LEAD
VALID JJA 2021
MADE 15 APR 2021

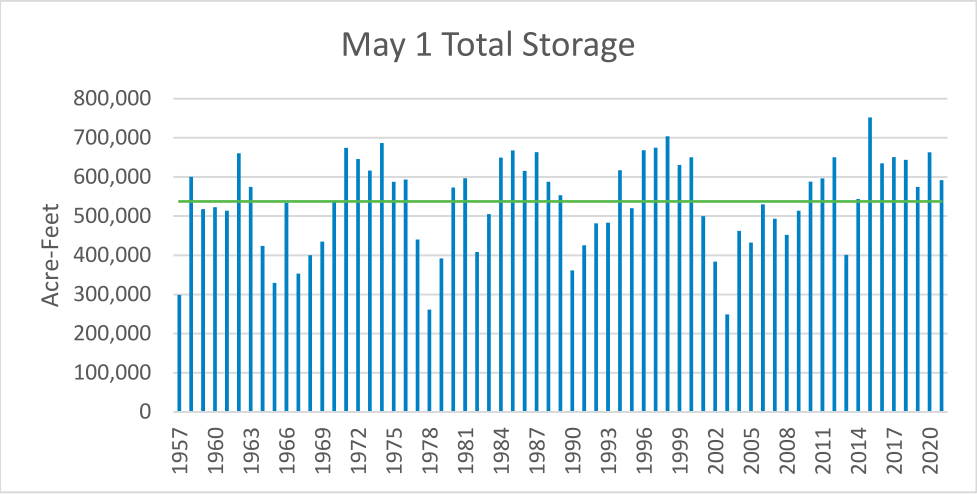
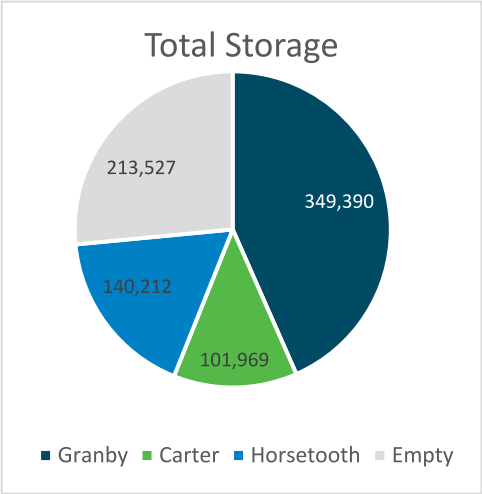
EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW



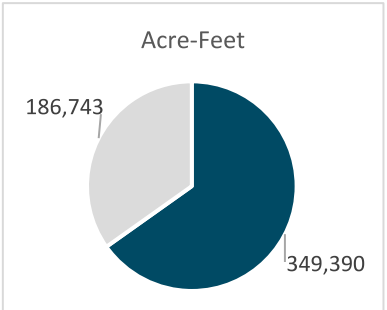
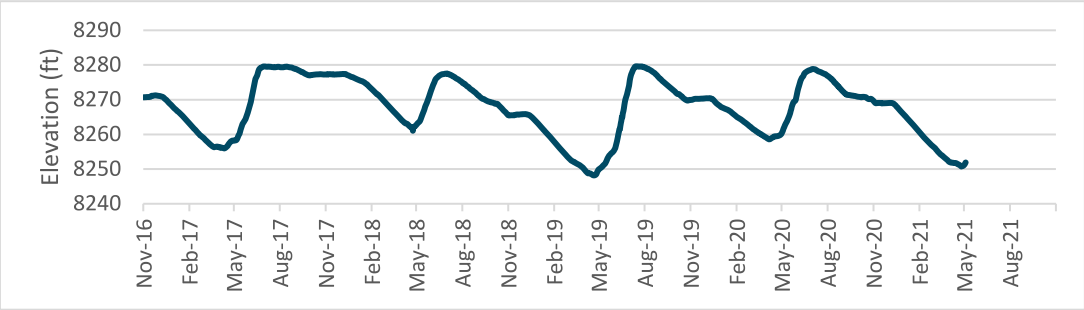


C-BT Project Storage

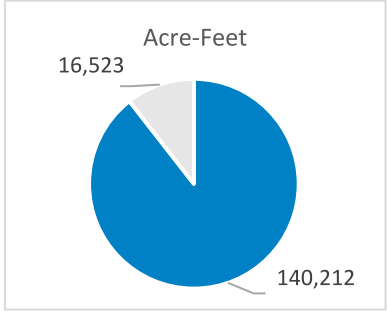
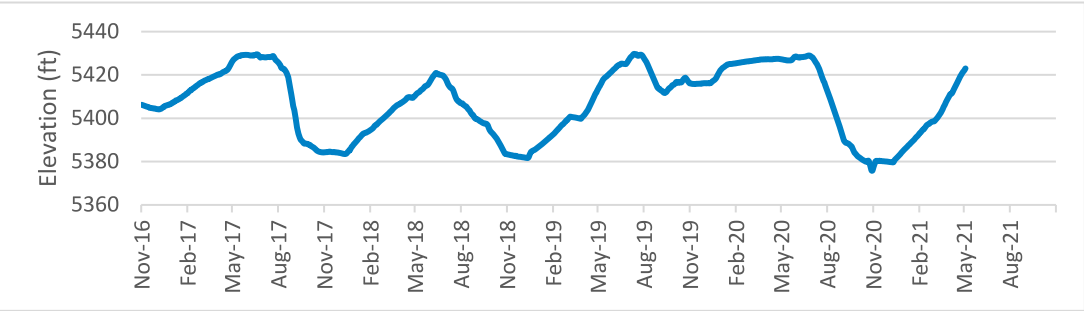
May 1, 2021



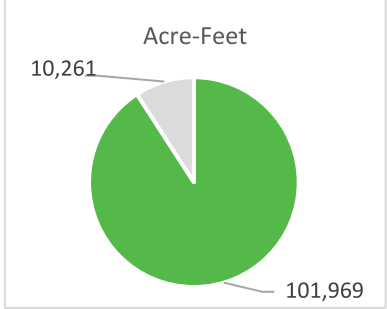
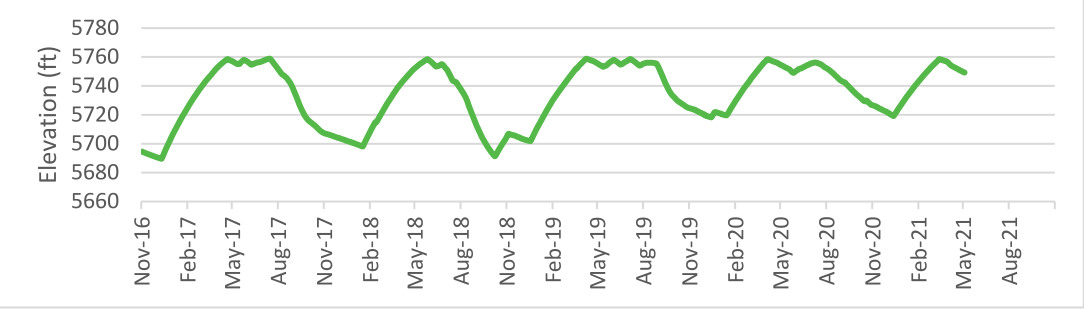
Lake Granby Storage in Lake Granby decreased 6,669 acre-feet last month



Horsetooth Reservoir Storage in Horsetooth Reservoir increased 22,019 acre-feet last month



Carter Lake Storage in Carter Lake decreased 7,515 acre-feet last month

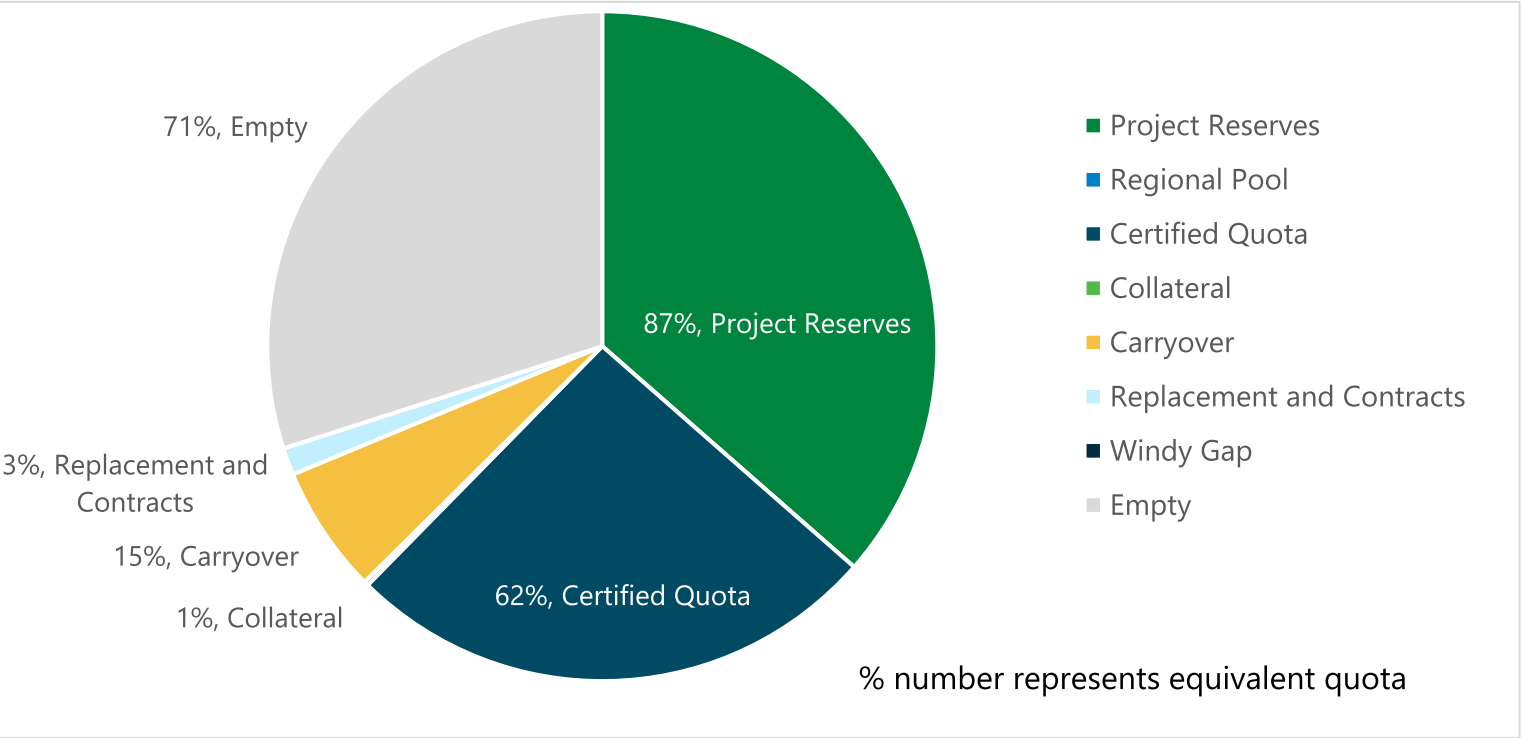


C-BT Project Allocated Water

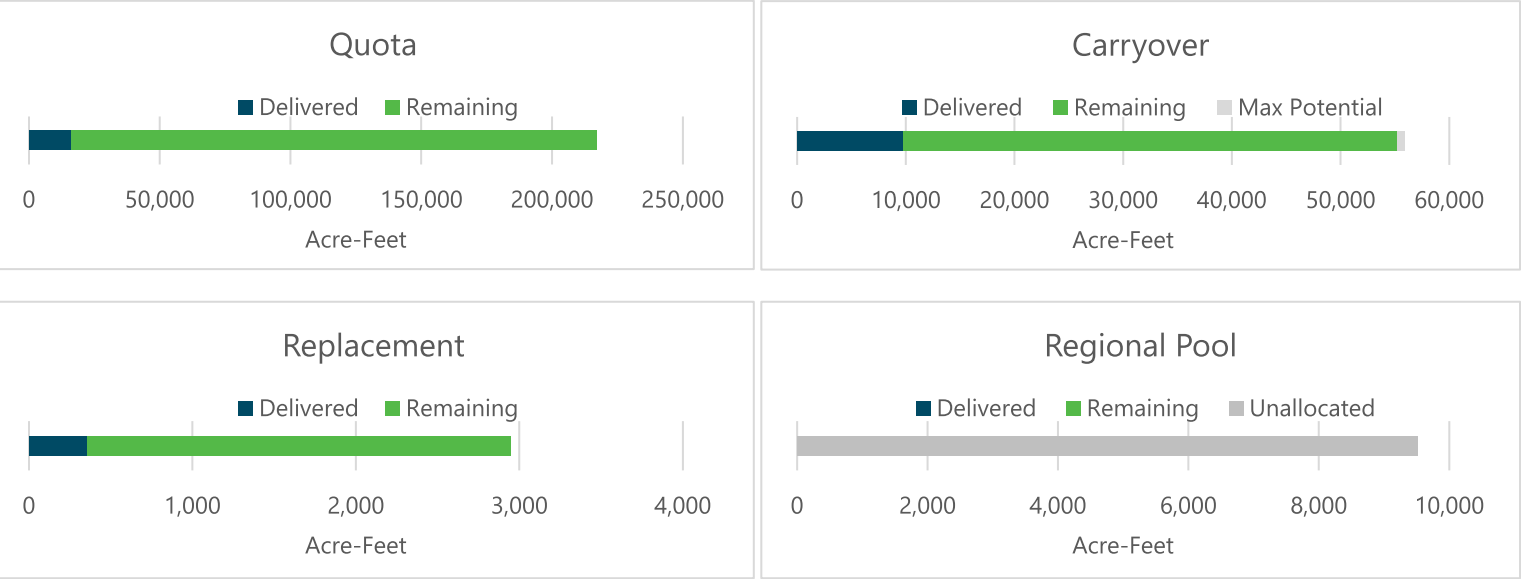
May 1, 2021



C-BT Active Storage



C-BT Delivery Obligations

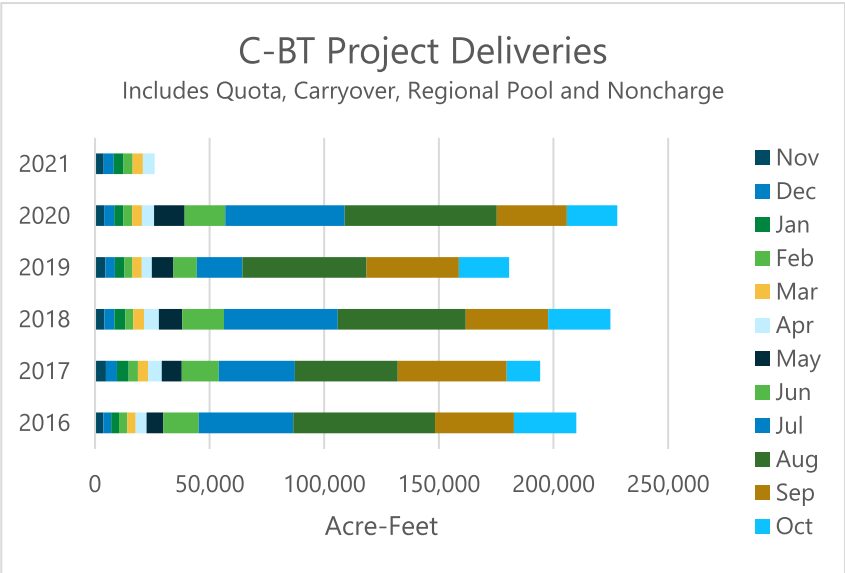
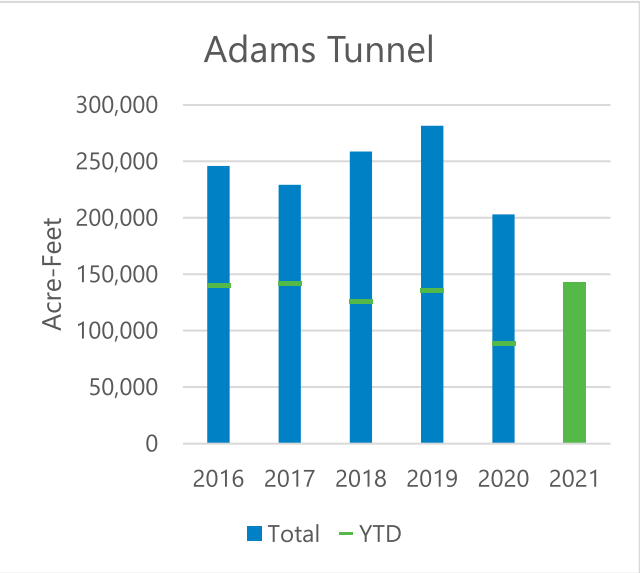


Notes:

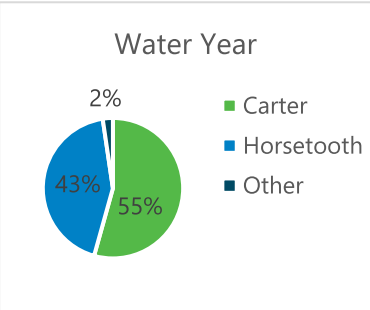
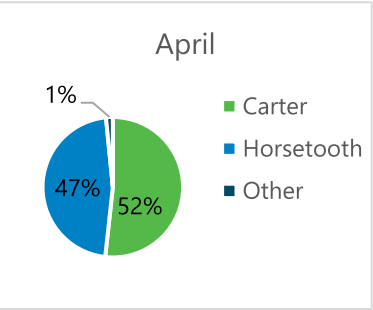
- 1) Quota set at 70%
- 2) Carryover - Entites certified 55,240.5 Acre-Feet of Carryover for WY2021.
- 3) Regional Pool - Additional water acrued to the Regional Pool on April 30, 2021. There is 9,510.3 Acre-Feet in the Regional Pool for WY 2021.

C-BT Project Deliveries

May 1, 2021



Deliveries by Area



Deliveries by Use

