

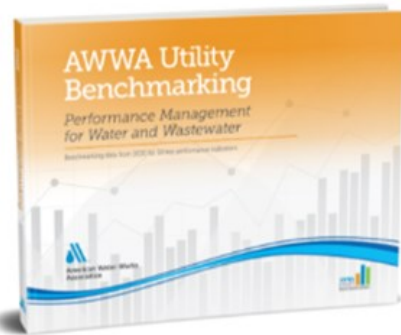
# MONTHLY REPORT

## MAY 2022



Our Vision: We will be a national leader among water utilities, focused on customer satisfaction and delivering outstanding quality and value.

## AWWA Benchmarking Survey



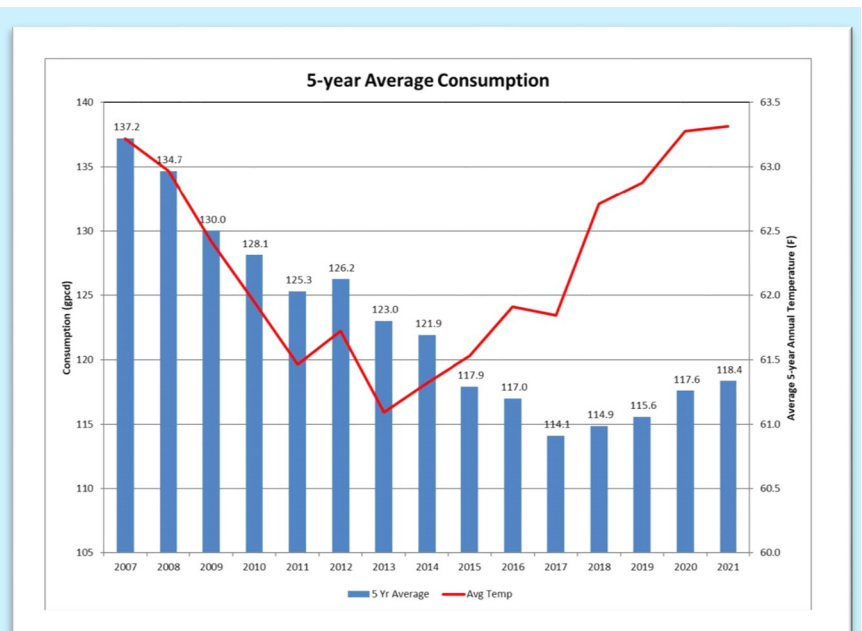
For the past nine years, Castle Rock Water has participated in an industry-specific benchmarking survey conducted by the American Water Works Association.

specific to the water sector. These indicators were designed to help utilities providing water and/or wastewater services improve performance. AWWA provides the mechanism for data collection to interested utilities, and all respondents receive a custom report that shows their individual utility's performance indicators against the aggregate data for all participating utilities. Castle Rock Water

The primary objective of the program is to provide a performance measurement system for decision makers in utilities that provide potable water, stormwater and/or wastewater services to help them improve their organizations. AWWA's benchmarking program continuously tracks utility performance indicators developed and applied by water industry professionals to provide a framework for improving both operational efficiency and managerial effectiveness for all utilities. The survey includes all aspects of a utility operation.

- Organizational development
- Business operations
- Customer Relations
- Water operations
- Wastewater operations
- Stormwater operations

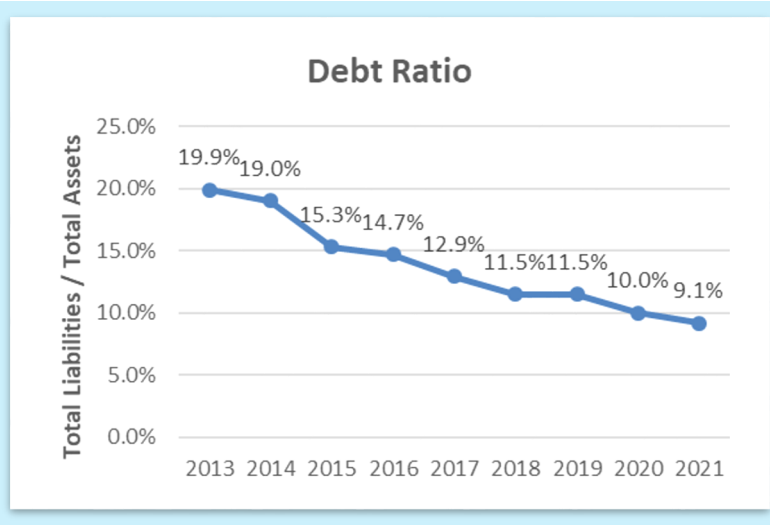
The basis of AWWA's benchmarking program is a system of well-defined and time-tested performance indicators



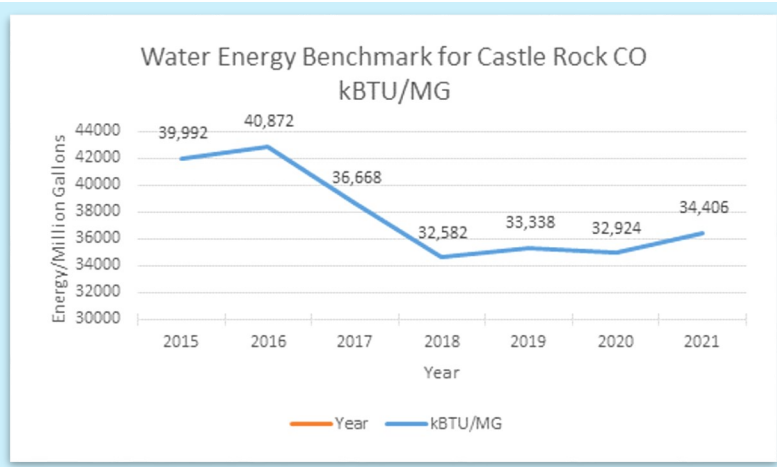
*The 5-year average per capita water consumption is a key performance indicator to measure water efficiency. The Town's goal is to achieve 100 gallons per capita per day and we have been successful in driving that down from 137 gpcd in 2007 to 118 gpcd in 2021. Upcoming changes in landscaping will be the next major effort to help reduce overall water. ColoradoScape will be the new norm in both residential and commercial landscaping.*

submitted our survey data in April 2022 for calendar year 2021 and, with benchmarking data in hand, Castle Rock Water can determine areas within our control where performance can be improved and potentially establish or revise policies and practices with the goal of improving our services to the Castle Rock

community. We already have been tracking some performance indicators and examples are included below. The preliminary benchmarking report is available and we already have begun our introspective analysis. There will be more to report on later this year after the final report is published.



*Debt ratio is the extent to which assets are financed through borrowing and is measured by total liabilities divided by total assets. The higher the debt ratio, the more dependent the utility is on the need to borrow. Castle Rock Water continues to maintain a healthy debt ratio with respect to other utilities. The top quartile in benchmarking results for debt ratio is 22% and Castle Rock Water is significantly lower at 9.1%.*



*While Castle Rock Water hits the top quartile in most parameters, one area that the utility will never reach top percentages is energy usage. Mining groundwater is energy intensive. The preliminary report shows a usage of 34,406 kBTU/MG, significantly higher than the 25<sup>th</sup> percentile of 9,363 kBTU/MG. The good news is that as we develop more renewable water, energy costs per million gallons of water should decrease.*

## Drought isn't about one dry season

Besides the deep groundwater that the Town pumps and treats, Castle Rock's water supply also includes renewable water. While renewable water is more sustainable in the long run, it's more heavily impacted by weather conditions. Despite the recent moisture, 99% of Colorado is currently in a drought—abnormally dry to exceptional drought (according to the U.S. Drought Monitor). January, February and March are typically high moisture months, and the state did not get the anticipated storms to bring conditions back to normal.

It boils down to a deficit in soil moisture. When there is some rain or snow, it soaks into the ground and rejuvenates plant material. When there is excess, the precipitation naturally flows to creeks and reservoirs. Currently, the state's creeks and reservoirs are not being adequately fed.

Drought isn't about just one season, though. Colorado has encountered extremely dry conditions in 2002, 2013, 2018 and 2019. These repeated cycles exacerbate the water supply concerns. The parched conditions are also

affecting other parts of the country and watering restrictions have already been enacted, not only in Southern California, but northern parts of that state too. The receding levels of Lake Mead and other water supply reservoirs have been hitting the news for years and the drought conditions are affecting all Western and Southwestern states.

These dry conditions and lack of immediate precipitation can include restrictions for outdoor watering. Irrigating the landscape accounts for about 50% of all water used in Castle Rock and is typically the easiest place to cut back use. Reducing irrigation by just 10% (or about 2 minutes) adds up. If landscapes are planted with native or drought resistant varieties, a little less water will not be detrimental. That Kentucky Bluegrass, a high-water-use plant, however, is going to feel that dryness and that heat. Another way to combat parched plants, is to use the Cycle and Soak method of irrigation. This promotes deeper roots which enable plants and grass to dig deeper for moisture stores, as well as survive and bounce back when temperatures cool down. Keeping trees watered and hydrated is essential during drought conditions as they provide a beneficial cooling effect.



*ColoradoScape design is the use of low-water plants and hardscape materials which blend with the native Castle Rock landscape and require less irrigation.*

Castle Rock Water has been preparing for these drought conditions. The Town has a drought management plan with stages and steps to manage supply. Efforts for long-term reduction in water use include encouraging customers to use native plants in their landscape and reducing the amount of turf grass

on their properties.

Castle Rock is also diversifying water sources, such as

reusing water, so there is less effect from drought

conditions. There is a strong storage component as well.

The plans and preparation for a strong water supply

now and the future is about working with customers and planners on a

variety of solutions to manage these cyclical weather

conditions.

## Drought in Colorado from 2000–Present

The U.S. Drought Monitor started in 2000. Since 2000, the longest duration of drought (D1–D4) in Colorado lasted 395 weeks beginning on October 30, 2001, and ending on May 19, 2009. The most intense period of drought occurred the week of July 16, 2002, where D4 affected 34.37% of Colorado land.

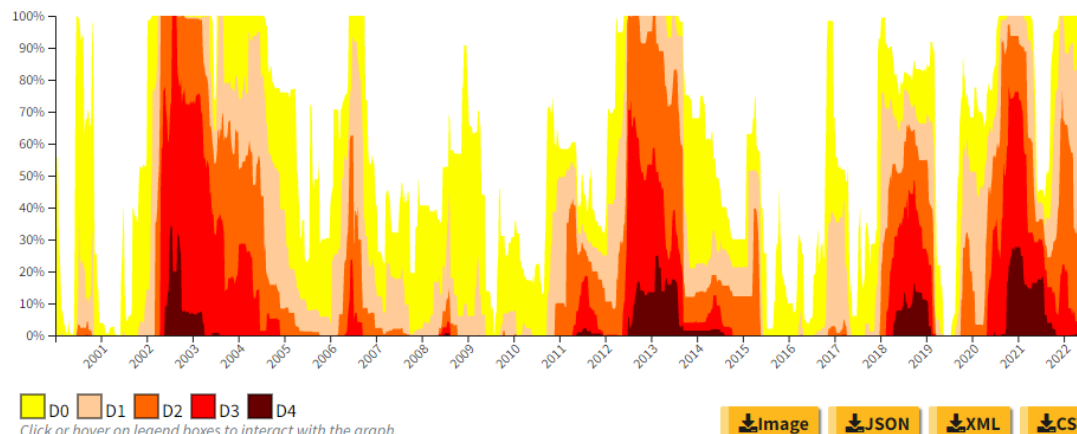
[2000 - Present \(Weekly\)](#) [1895 - Present \(Monthly\)](#) [0 - 2017 \(Yearly\)](#)

[Explore Historical Maps](#)

The U.S. Drought Monitor (USDM) is a national map released every Thursday, showing parts of the U.S. that are in drought. The USDM relies on drought experts to synthesize the best available data and work with local observers to interpret the information. The USDM also incorporates ground truthing and information about how drought is affecting people, via a network of more than 450 observers across the country, including state climatologists, National Weather Service staff, Extension agents, and hydrologists. [Learn more.](#)

Time Period (Years):  to  [Update Graph](#) [Reset Graph](#)

Latest Available Data: 2022-05-31





# Good job!

*Promoted!*



**Nichol Bussey**  
Business Solutions &  
Support Services Manager



## NEW CERTIFICATIONS



**John Ferguson**  
Water Industrial C  
State Operator Certification



**Zuzana Howard**  
Water Treatment D  
State Operator Certification



**Chris Cochran**  
Collections II  
Operator Certification



**Kyle Buntin**  
Collections II  
Operator Certification



## Water Star Award

*The Water Star Award recognizes a coworker within Castle Rock Water for doing an excellent job in fulfilling the Department's Vision and Mission.*

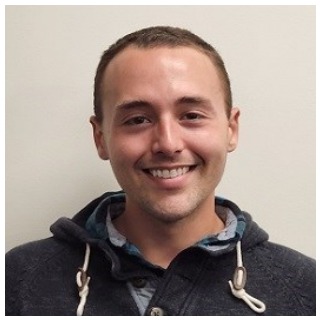
**Monty Anderson**, Plant Mechanic II, was awarded the Water Star from Dan Nickerson to show his appreciation for being a mentor when Dan first started at Castle Rock Water. Monty is an incredible team player and has exemplified that it's not just one person that makes it happen, but a good team.

# Good job!

## Welcome NEW HIRES



**Jackson Byrnes**  
Meter Services Tech



**Bryan McCullah**  
Meter Services Tech



**Tim Mahlstadt**  
Distribution  
Operator I



**Jonathon Lutterman**  
Distribution  
Operator I



**Jeff McRae**  
SCADA Analyst



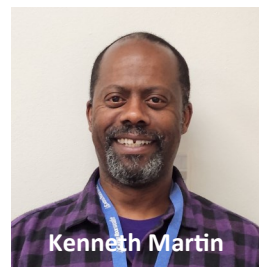
**Joey Woolfolk**  
Distribution  
Operator I

### Seasonals

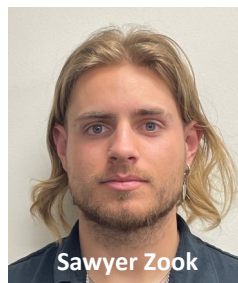
#### Water Monitors



**Annie Julseth**



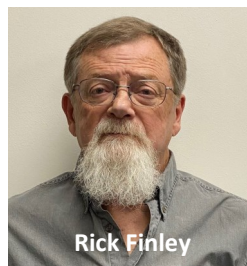
**Kenneth Martin**



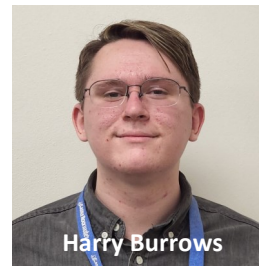
**Sawyer Zook**



**Brandon Bussey**



**Rick Finley**

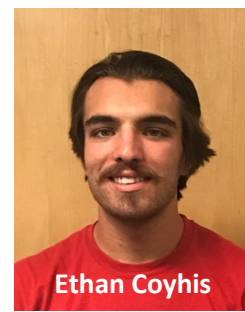


**Harry Burrows**

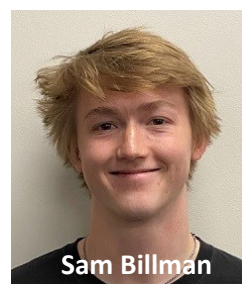
#### Water Plant Ops



**Nolan Ferguson**



**Ethan Coyhis**

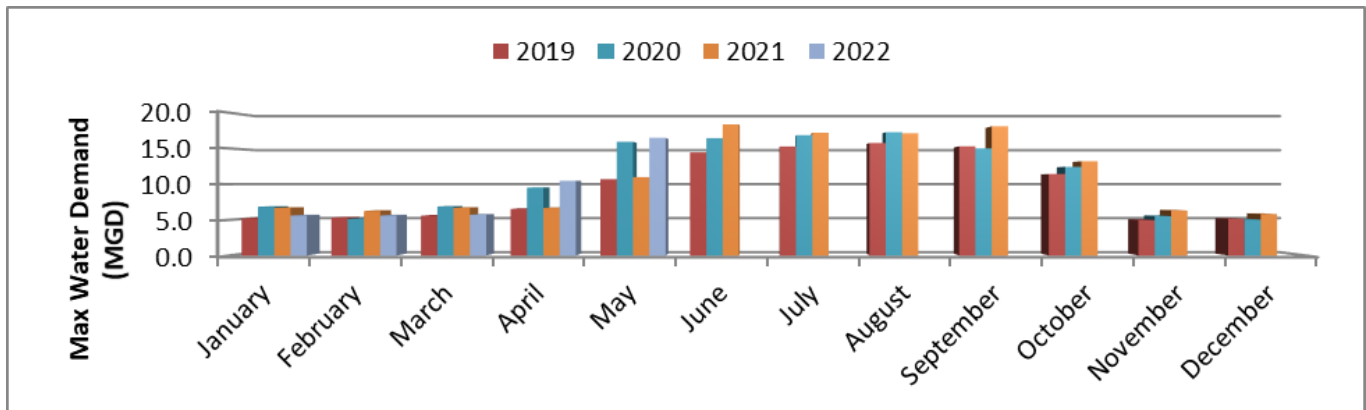


**Sam Billman**

# Water Resources

## Water demand

Maximum demands inform us of the size of the infrastructure necessary to provide water service over short periods of time and help us to plan future water resources needs.



### May Max Daily Demand:

- 16.5 million gallons/day
- 5-year average, 13.5 million gallons/day
- 22% higher than the 5-year average

### Water Demand Total:

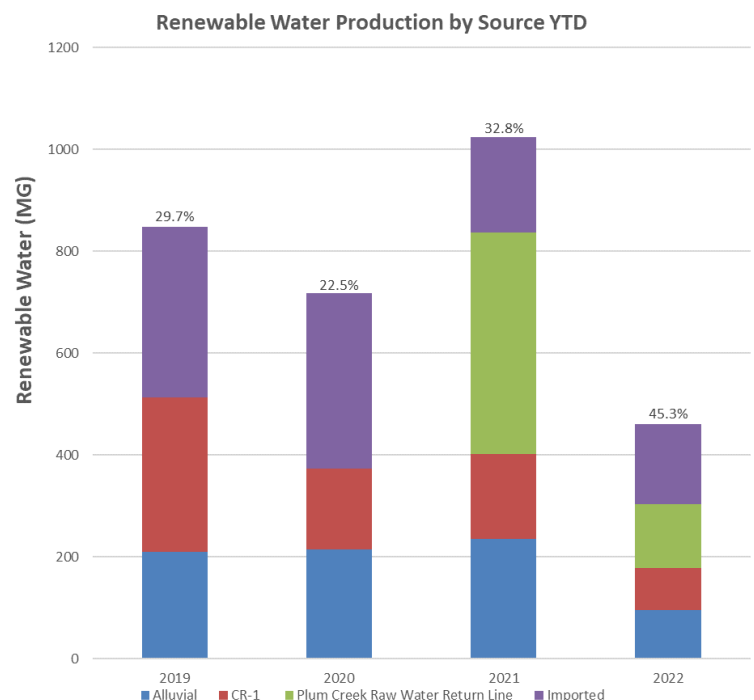
- The water demand total for May was 353.3 million gallons (MG) [1084.2 acre-feet (AF)]
- 76% higher from the April 2022 total of 200.5 MG
- 44.9% increase from the previous year's May 2021 demand of 243.8 MG.

## Renewable supplies

Renewable supplies are those water sources that are replenished by precipitation.

In total, renewable supplies accounted for 41.3% of the total water supply for the month and 45.3% of the annual water supply (1,017.4 MG or 3,122.3 AF) to date.

- The CR-1 diversion produced an average of 1.05 MGD.
- The PC diversion produced an average of 2.3 MGD.
- The 14 alluvial wells produced an average of 0.64 MGD.
- The renewable water production average was 4.89 MGD.
- The renewable water total production was 151.5 MG (464.9 AF).



**Our goal is to reach 75% renewable water by 2050.**

# Water Demand

## Reusable supplies

Reusable supplies are waters that are either from the non-tributary Denver Basin (deep wells) or imported supplies (such as WISE) that can be used over and over, to extinction.

- The average reusable supplies used by Castle Rock for 2022 through May is **88.9%**. *WOW!*

## Storage

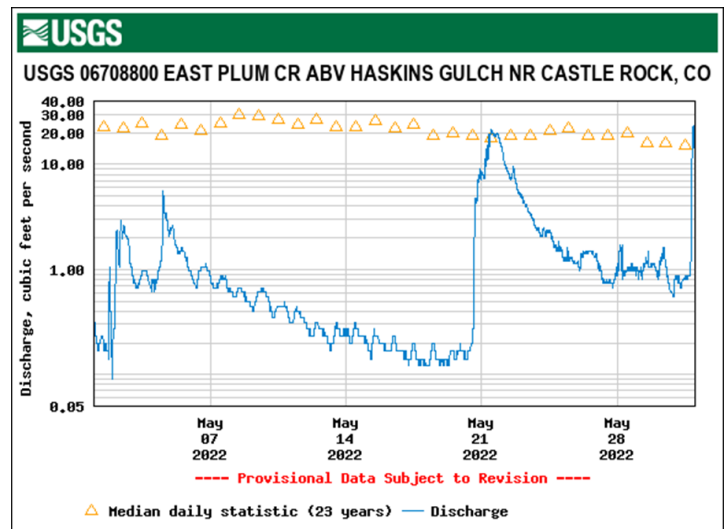
### Current reservoir storage

- Chatfield: 1,523.21 AF
- Rueter-Hess: 113.46 AF
- CRR1: 174.35 AF

## Drought

According to the U.S. Drought Monitor maintained by the United States Department of Agriculture (USDA), **Castle Rock is experiencing Abnormally Dry (D0) to Moderate Drought (D1) conditions.**

## Local Plum Creek supplies

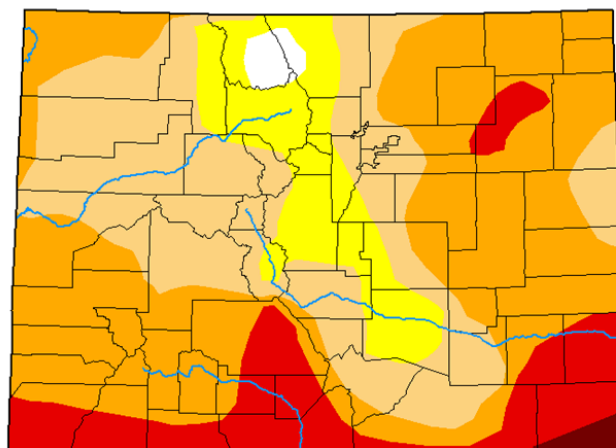


The hydrograph shows the estimated flows in the East Plum Creek basin.

- Flows ranged from 0.09 – 23.6 cubic feet per second (cfs).
- The monthly average streamflow was 1.7 cfs.
- The 22-year median is 38 cfs.

## 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

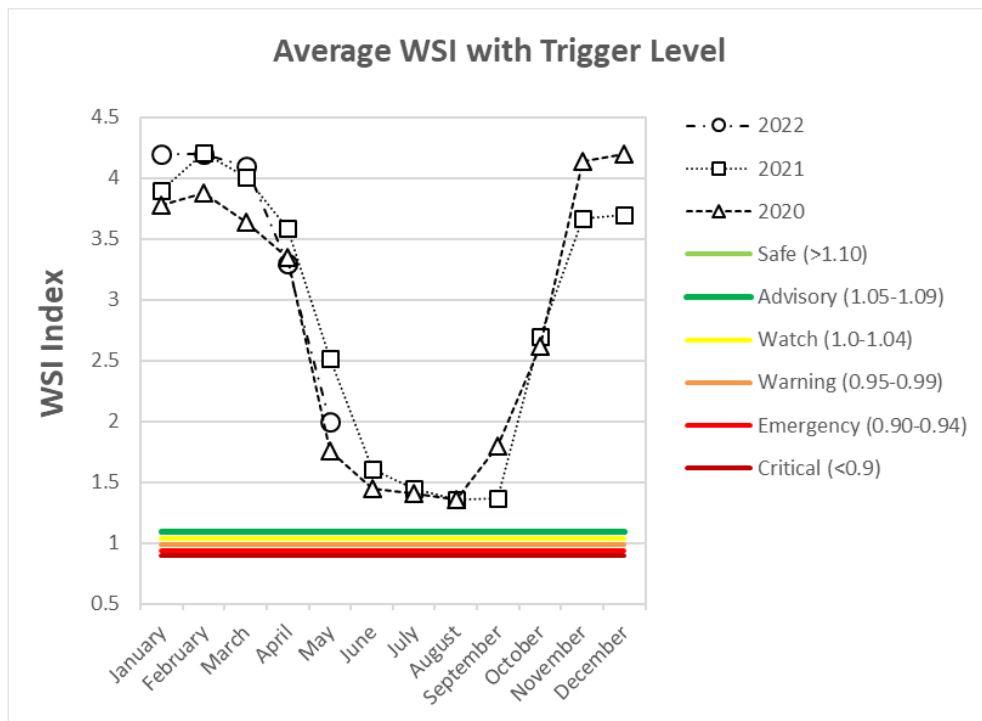


# Water Demand

## Water supply index

The Town of Castle Rock Drought Management Plan uses a Water Supply Index (WSI) for the Town that accounts for local conditions relative to the Town's capability to address our water resources and daily water demands. Anything below a 1.1 will trigger a drought stage relative to its severity.

- The average WSI for May was 2.0



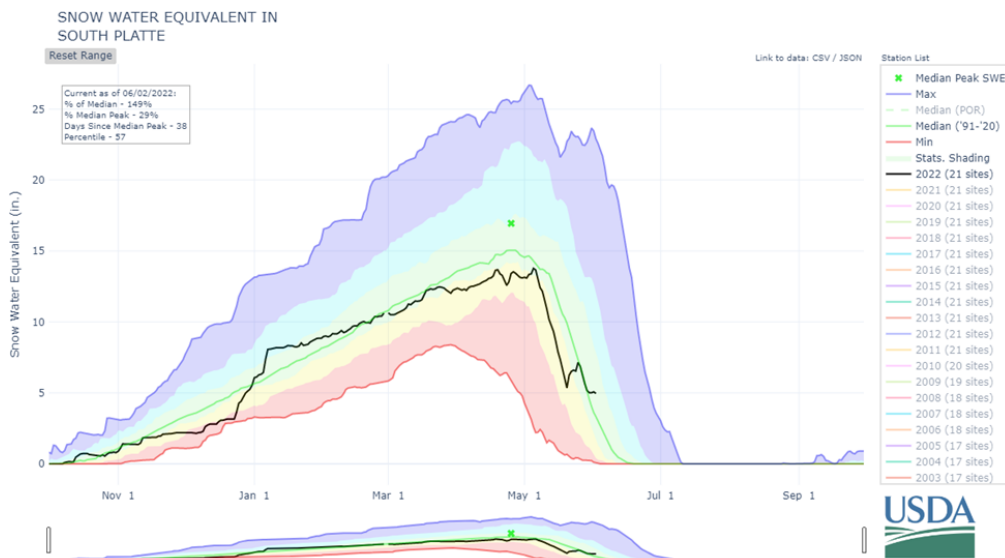
## South Platte River Basin

### South Platte River Basin

#### Snow Pack

- Year-to-date precipitation at 101% of average.
- Snow Water Equivalent (SWE) at 142%\* of average.

\* Analysis may not provide a valid measure of conditions.



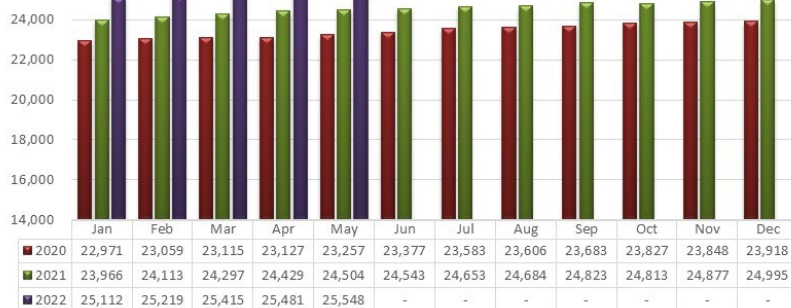


# Business Solutions

## Customer Service & Billing



# of Accounts Billed

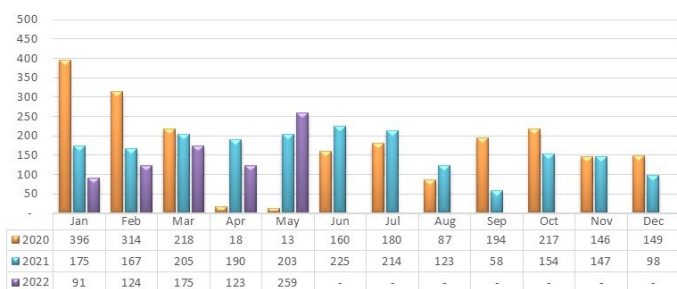


### 2022/Q1 statistics

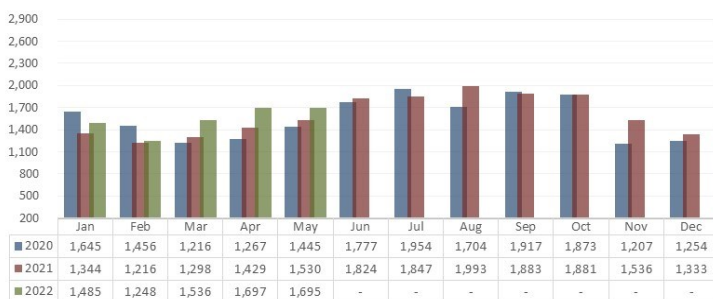
- 17,991 (71%) have an online account
- 11,575 (64%) are paperless

Customers benefit from having an online H2Oaccess account with 24/7 access to statement information, 12 months of statement history, helpful email account reminders and safe and secure online payment options. Customers are encouraged to use paperless billing to reduce clutter, be environmentally friendly and save mailing costs.

Walk-In Customers



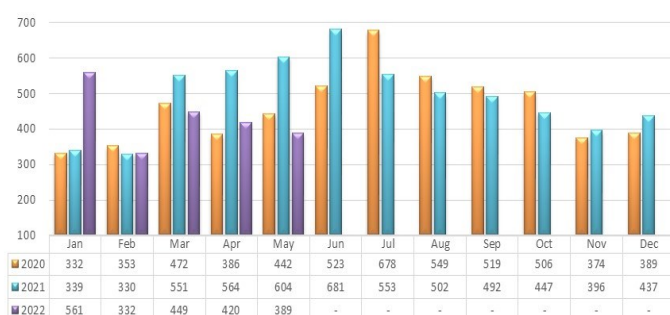
Customer Phone Calls



Mywaterbill Email Inquiries



Transfers of Water Service



## Customer Outreach

*Keeping customers informed about the value of water.*

Water Outreach Social Media Stats	REACH
Watering schedules/weather — May 4	4,597 people
2022 ColoradoScape Vote — May 6	10,456 people
Sprinkler Spruce Up — May 11	2,437 reach
ColoradoScape Winner — May 17	19,230 people
ColoradoScape Plants VIDEO — May 18	1,100 people
Poop Fairy: Koa — May 23	7,219 people

Run-Time Calculator — May 25	4,645 reach
Instagram: ColoradoScape vote — May 6	1,474 reach
Twitter: ColoradoScape vote — May 6	654 reach
Email: A career in the water industry — May 13	15,271 opened (53% open rate)
HOA Email: Keeping an eye on that water budget -- May 17	110 opened (50% open rate)

Did you know? Castle Rock Water customers consist of 74% residents, 14% non-residential and development, and 11% irrigation only. (Irrigation only are landscaped areas, HOA open-spaces, medians, parks, etc.)

# Meters



## Meters Read

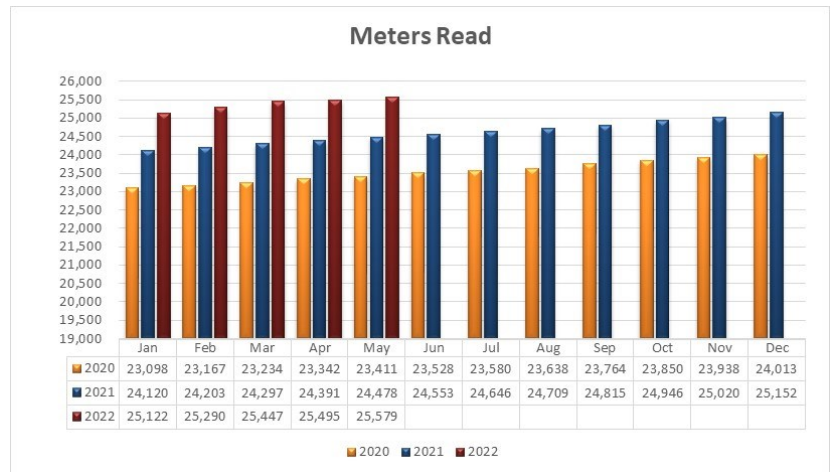
Meters are read the first two days of every month. The number of meters read continues to increase month to month and is a significant increase over last year.

## Skipped Reads

**May 2022: 0.56%**

Measuring skipped reads is a strong indication of the level of preventative maintenance being done by our team. A skipped read is indicative of a problem with the metering infrastructure (i.e. battery, wiring, etc.). Fewer skipped reads means more properly working meters, which is good for all our customers.

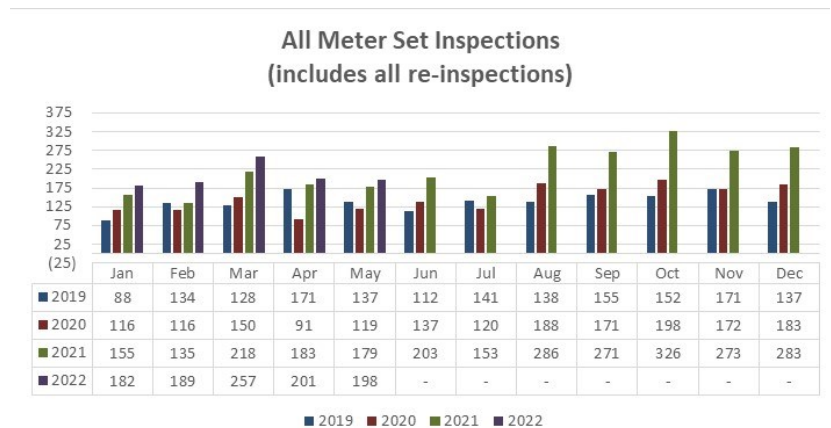
*The AWWA standard is 2%, so we still continue to stay well below the industry average.*



## Meter Set Inspections

**Re-inspections: 45%**

Meter set inspections are required on all new meters installed. This ensures that the meters are installed per specifications and according to Town code. At the time of the inspection, the curb stop is tested for operability and the MXU is installed which provides reading capability for our drive by technology. Re-inspections are needed to ensure installation meets code when original inspections are failed.



## Work Orders

**May. 2022: 705**

Meter services performs a variety of service work orders every month beyond meter reading. These include curb stop maintenance, meter replacement and repair, final reads for transfers of service, disconnection and reconnections, meter set inspections, and more.



# Operations & Maintenance

## LEVELS OF SERVICE

**May 2022**

### Drinking Water Compliance

Castle Rock Water will deliver water that meets or surpasses the requirements of both Primary Drinking Water Regulations and Secondary Maximum Contaminant Levels 100% of the time.

**100 routine samples were completed.**

*All samples were within the parameters set forth by the Safe Drinking Water Act and Colorado Drinking Water Standards*

### Pressure Adequacy

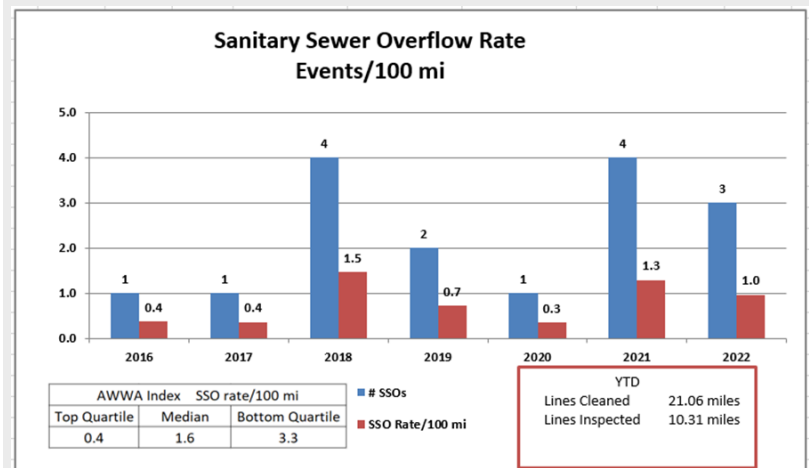
< 1% of our customers will experience less than 43 pounds per square inch (psi) of pressure at the meter during normal operations.

**There were no water pressure issues in May.**

### Sewer System Effectiveness

<1% of our customers will experience a sewer backup caused by the utility's sewer system per year. Castle Rock Water remains in the Top Quartile for least number of sewer backups based on the AWWA benchmarking.

**There were no sanitary sewer issues in May.**



### Water Quality Complaints

Castle Rock Water remains in the Top Quartile for water quality complaints based on the AWWA benchmarking.

**There were no water quality complaints or issues in May.**

*There were 4 educational visits.*

# Operations & Maintenance

## LEVELS OF SERVICE

May 2022

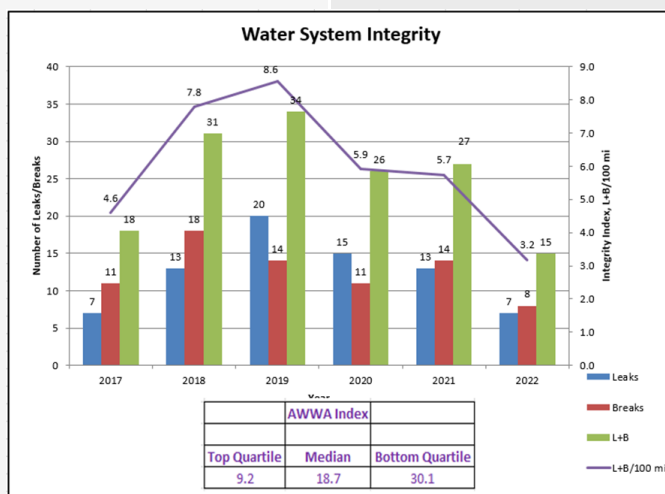
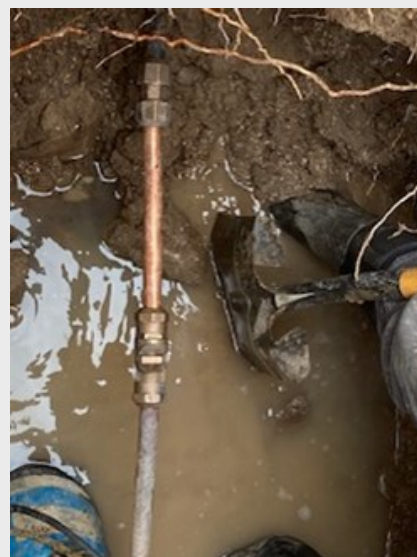
### Drinking Water Supply Outages

<5% of our customers will experience water outages for one or more events totaling more than 30 hours/year.

Castle Rock Water remains in the Top Quartile for water system integrity based on the American Water Works Association benchmarking.

**There was one water system integrity issue in May:**

- A Founders home under construction had a damaged curb stop, which was replaced by the Distribution and On Call teams. Eleven homes were without water for less than fifteen minutes during the repair.



## Utility locates

### Water locates conducted

- May — 2,819 tickets



Before you start a project, call 811. Whether you are planning to do it yourself, or hiring a professional, we will help you do it safely. The local 811 Call Center will contact Castle Rock Water and will schedule a time for us to come out to locate public water, wastewater and stormwater lines in the road and in your project area.



*The Stormwater Team successfully rescued a skateboard from a stormdrain!*