



# THE Pipeline

YOUR CURRENT WATER INFO SOURCE

## Winter 2021

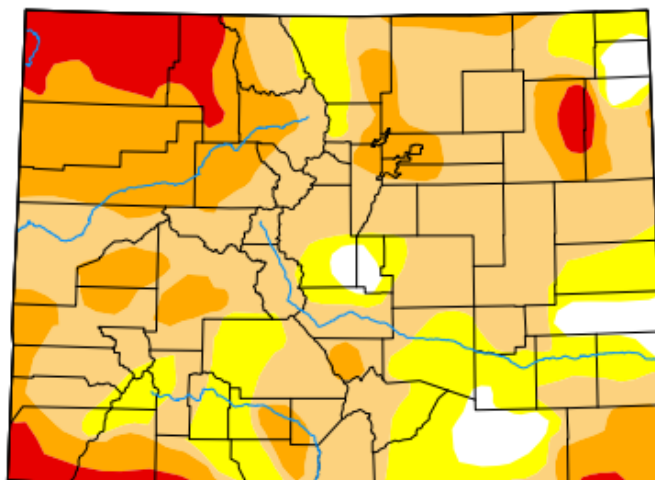
### In this edition...

- National Drought Summary for West Region
- Equipping of the 3<sup>rd</sup> BNR and Secondary Clarifier
- Valve Replacement Project / Arapahoe Rd & Revere Parkway
- Partnering for The Holidays



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## National Drought Summary (November 2021)



### 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>

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Throughout the past two years, the entire state of Colorado has been going through a severe drought. At a bird's eye view, this can be attributed but not limited to a few factors: precipitation, temperature, and earlier than normal snowmelts. Over the past two years, the State of Colorado has experienced precipitation that is far below average, especially in Western Colorado. Given that the Colorado River is primarily fed by precipitation runoff in the Rocky Mountains, the river is flowing much less than normal and exacerbating the emptying of reservoirs such as Lake Powell and Lake Mead. Furthermore, Colorado has experienced higher than average temperatures over the last two years, and with the yearly average temperatures of the past 20 years never even getting close to those of a century ago, this is likely to continue happening. This increase is concerning since it leads to higher evaporation of surface water to satisfy the conditions of the warmer, dryer environment. Moreover, an increased temperature leads to the snow stored in the Rocky Mountains melting earlier in the year, an issue that is significantly worsened when coupled with the less than desirable snowfall of last year. This in turn leads to a lower spring runoff due to there being less total snow that melts significantly sooner. Over the past two years, Colorado has experienced some of the most rapid declines of snowpack ever recorded during the month of April. This has led to there being a large source of water unaccounted for when it is needed during the spring and summer irrigation seasons. While the worst of these conditions and repercussions are hurting Western Colorado more than Eastern Colorado currently, this will not be the case forever if the drought persists. If this drought were to worsen and spread more to Eastern Colorado for an extended period of time, the surface water that ACWWA sends to customers will become less and less available requiring ACWWA to rely more on non-renewable groundwater and possibly requiring customers to reduce their water use in the future.

# Equipping of the 3rd BNR

## and Secondary Clarifier



Lone Tree Creek Water Reuse Facility (LTCWRF) uses Biological Nutrient Removal (BNR) to reduce nitrogen, phosphorus, and organic materials in wastewater. The BNR is a multi-step (6 steps) treatment process using microorganisms under various environmental conditions to uptake nutrients and create biological floc, which are clumps of active microbial mass. The floc is then separated out using a secondary clarifier using sedimentation. Without this treatment the discharge water which flows into Cherry Creek would be nutrient rich and cause eutrophication of the downstream surface water. The most common side effect of eutrophication is low dissolved oxygen, which can create fish kill, murky water and depletes vegetation.

When LTCRWF was built, 3 trains of BNRs and clarifiers were constructed but only two were equipped and were being used for treatment. At the current plant capacity both trains had to be operated full time, therefore neither train could be taken down for maintenance. The two trains have been in operation

for 12 years and were overdue for maintenance. In 2019, it was decided to move forward with equipping the 3<sup>rd</sup> BNR and clarifier for redundancy purposes only. Engineering consultant Mott MacDonald was hired as the design engineer to create the plans and specifications. In 2020 the project went out to bid and Velocity Constructors, Inc. was selected as the contractor.

In October 2021 the 3<sup>rd</sup> BNR and clarifier were equipped and successfully completed, and in early November the 3<sup>rd</sup> process train was brought online. The completion of this project has provided ACWWA the necessary redundancy to allow routine scheduled maintenance on the BNRs and secondary clarifiers. Train #1 – BNR #1 and clarifier #1 are currently being cleaned and maintained, and in 2022, Train #2 will be taken down for cleaning and maintaining. All trains will be cleaned on a rotating five-year basis, keeping the BNR treatment process functioning at maximum efficiency.

## Valve Replacement Project Arapahoe Road & Revere Parkway

Maintaining our system's infrastructure is one of ACWWA's highest priorities. This includes identifying the areas of concern and any areas that would prevent ACWWA from supplying safe and reliable water and sewer services. ACWWA strongly believes in preventive maintenance and when a failure in our system is identified, we put an appropriate plan in motion to mitigate any future risks. In 2020 several isolation valves were identified as having potential for failure. These valves were prioritized based on risk of failure, and a replacement plan was put in place.



The valve identified with the highest risk of failure was replaced on November 6, 2021, located at the southwest corner of Arapahoe Road and Revere Parkway. This valve has been in service for more than 40 years, and is crucial in maintaining potable water service to customers west of Revere Parkway on Arapahoe Road. This 18" valve wouldn't isolate, which would have caused major issues if there was a water main break to the west.



The replacement was done as an overnight shut down, orchestrated with the City of Centennial and CDOT due to this being a closure of a major roadway, Arapahoe Road. ACWWA is pleased to say that the valve replacement was a success as testament to our contractors and staff for a well planned and executed project.



## HAPPY HOLIDAYS

*from* ACWWA

While 2021 brought its challenges to many of us, the employees of ACWWA were determined to not be deterred in their efforts to reach out to those neighbors in need. For the thirteenth year in a row, the employees of ACWWA have participated in Arapahoe County's program, Partnering for the Holidays. This program serves families in need, specifically children and adults who have been victims of abuse and neglect or are experiencing financial hardship. Monetary donations were collected from employees, and in an effort to reduce the risk of spreading COVID, volunteers from ACWWA purchased and delivered gift cards to the Arapahoe County "Holiday Store." It gave ACWWA employees a chance to connect with their community at this special time of year!