

# Get Wild: The true meaning of snow

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Kendra Fuller  
Get Wild



The lower Blue River is pictured in Summit County.  
*John Fielder/Courtesy photo*

As we sing songs dreaming of a white Christmas, pray to Ullr to glide his skates across our land bringing snow, wear our pajamas inside out and put spoons under our pillows, we are wishing for powder days, big dumps and snowmen.

Not only would snow bring joy and excitement to Summit County, but it would also bring much-needed moisture to our mountains. Santa is not the only one watching closely this time of year. The recreation industry, avalanche centers, department of transportation, agriculture industry, water providers and many more pay close attention Summit County’s snowpack and its associated water content.

Colorado’s snowpack acts like a reservoir in the winter and a drip irrigation system in the spring. As spring’s warmer temperatures and longer days heat the snow, the snow melts. The dry ground absorbs snowmelt, saturated soils allow the water to percolate and recharge aquifers, and water runs into rivers to serve human and ecological users. To know how much water we will have for our lakes and streams, we must first know how much water we have in the snow.

The U.S Department of Agriculture monitors the Blue River snowpack using six snow telemetry sites, where a bladder of antifreeze sits in an undisturbed area of the forest. The weight of the snowpack pushes an equal weight of the antifreeze into a measuring tube, which is then remotely transmitted as data. To get an image of the snowpack distribution across the mountain topography, Denver Water uses low-flying aircraft equipped with light detection and ranging, which crisscross over the watershed and shoot beams of light at the snow below. The sensors capture reflections off the frozen surface to measure the depth of snow.



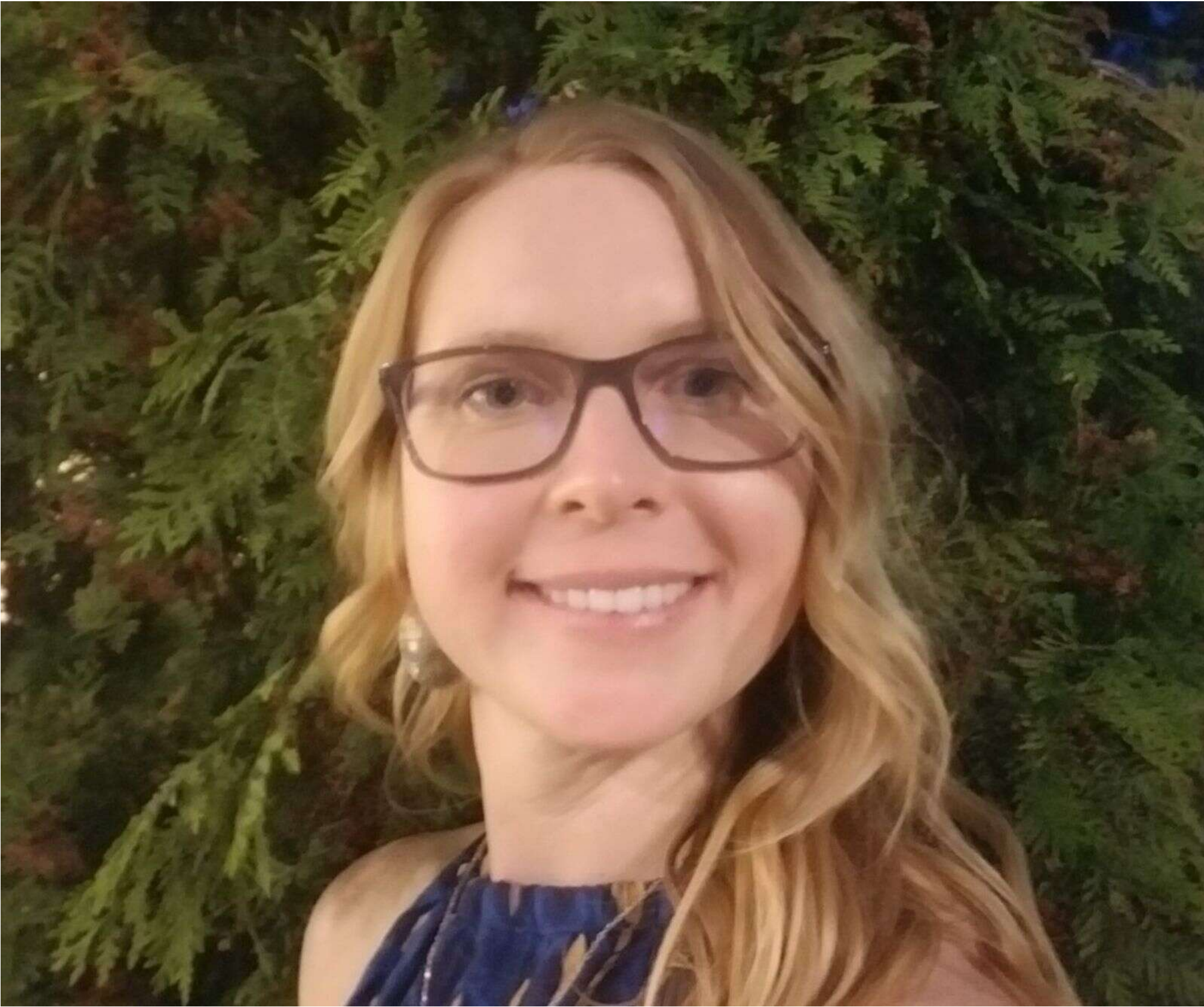


In terms of water production, snow depth and snowpack density are important factors. Dense, heavy snow holds more water than crystalline faceted, or sugar, snow. To understand the current snowpack, we can reference the measuring site on Hoosier Pass. Imagine standing near the top of Hoosier Pass, where the snowpack was measured Dec. 1 at a depth of 12 inches. Magically, you snap your fingers and instantly melt all that snow into water. As calculated by the Department of Agriculture, the snow would become a puddle of 2.8 inches of standing water. This conversion of snow to water is called snow-water equivalency and is vital in predicting runoff and the planning for reservoir operations.

Streamflow predictions are made by the Natural Resources Conservation Service, which can help federal and private water providers operate reservoirs appropriately. Reservoirs must balance flow releases for downstream rights, ecological needs and water storage for dry summer months. If that 2.8 inches of water from Hoosier Pass were to flow down into the stream, it would be monitored by 10 U.S. Geological Survey stream gauges along its path to the Colorado River. Of that 2.8 inches of water, we can expect 0.8 inches to be permanently removed from western watersheds through diversion tunnels under the Continental Divide to provide water to the Front Range.

With all this monitoring, infrastructure and effort, it’s not hard to realize the snowpack is a vital and heavily managed resource of the West. But for me, it’s also valuable when hoping to watch the tips of my skis disappear under fluffy powder.

So for all 40 million people relying on the water of the Colorado River, I will put an extra hop in my snow dance this weekend!



Kendra Fuller

“Get Wild” publishes on Fridays in the Summit Daily News. Kendra Fuller is the executive director of Blue River Watershed Group, a nonprofit that restores and protects the Blue River watershed through education, stewardship and resource management.

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