SUMMIT DAILY

Get Wild: Our forests, our water

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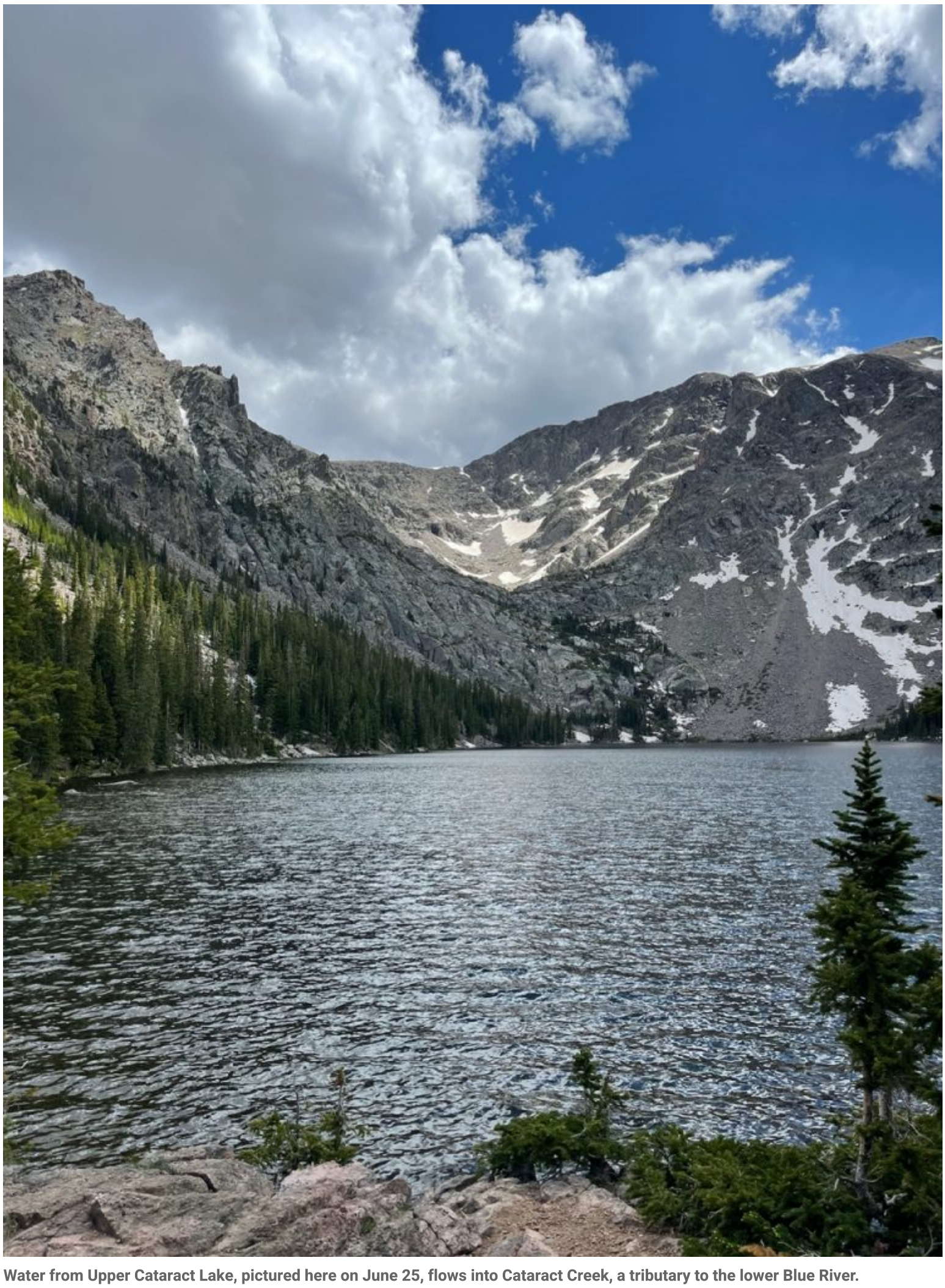
Libby Pansing
Get Wild



Water from Upper Cataract Lake, pictured here on June 25, flows into Cataract Creek, a tributary to the lower Blue River.
Libby Pansing/Courtesy photo

With declining precipitation and increasing temperatures, water in the West is a hot topic. In June, the Bureau of Reclamation, which oversees interstate management of the Colorado River that supplies drinking water to over 40 million people in the Western U.S., declared that the 4-million-acre

feet (1,300 billion gallons) by 2023. For context, Arizona is allocated 2.8 million acre-feet per year. Locally, this decision impacts our own Blue River watershed, a tributary to the Colorado River. Watershed improvement is critical as we to learn to conserve for the benefit of all.

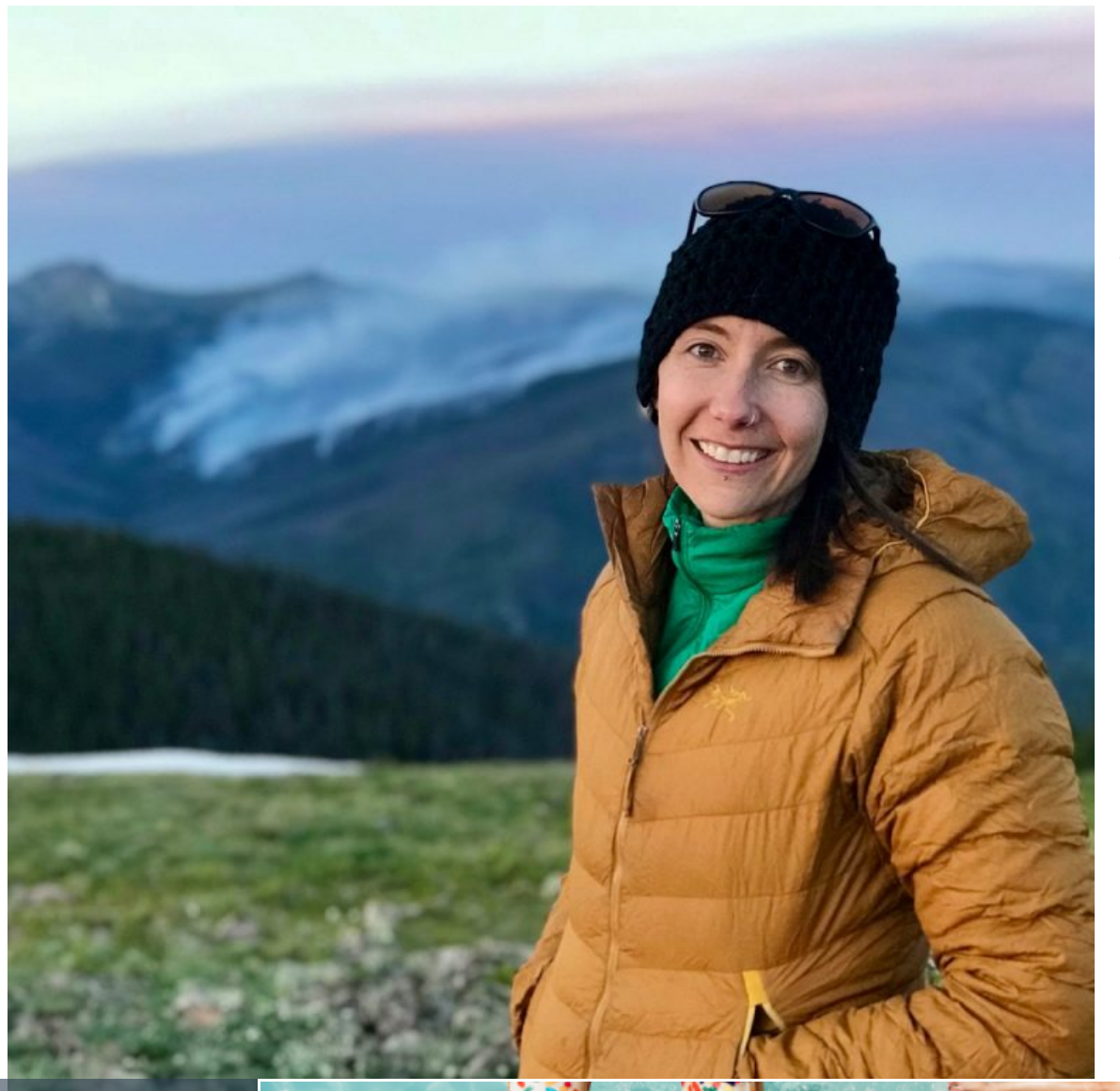
Given the need to conserve water, it may be surprising that the remainder of this article focuses on forests. Watershed and forest health are intricately intertwined. Healthy forests mean healthy watersheds; active forest management is key to maintaining, protecting and improving Blue River water. As we expand our tools to promote watershed health, we must not overlook forest management.

Of particular importance is managing tree density. Finding the density "sweet spot" ensures that both water yield and quality are maximized. Over the last century, Summit County forests have become overly dense, increasing risk of high-severity wildfire, and pest and pathogen outbreaks. Forest thinning is integral to restoring forest structure and function and profoundly affects water provisioning. Reducing tree density increases water yield, in some systems, dramatically. In the California Sierra Nevada, reducing tree density by 10% increased runoff from 4% – 16%. Similar studies are scarce for our region, but the relationship between tree density and runoff is clear—fewer trees mean less water removed from the watershed by thirsty trees and less water intercepted by tree canopies to be returned to the atmosphere.

Of course, this doesn't mean that we should cut down all our trees to increase water yield. A balance is necessary to maximize forest and watershed health. Forests play a key role in abating climate change, providing habitat for wildlife and plants, making our drinking water safer and easier to clean and protecting communities from erosion and flooding. Forests do substantial legwork in protecting us from risks associated with seasonal precipitation patterns, slowing spring snowmelt and storm runoff. Slowed runoff ensures that seasonal floods are moderate and infrequent, erosion is minimized, and aquifer recharge is maximized. Forests filter our drinking water by removing nutrients and sediments before water arrives at a treatment facility. Consequently, water treatment costs are lower in areas with high forest cover. By some estimates, an increase in forest cover of 10% can reduce costs by 20%.

Taking care of our forests is also a proactive measure to guard against consequences of forest disturbance, including wildfire and beetle outbreaks. Wildfire can cause catastrophic flooding, soil erosion and long-term problems to drinking water quantity and quality. Colorado is no stranger to these impacts. Denver Water is still dealing with the consequences of the 1996 Buffalo Creek and 2002 Hayman Creek Fires, which have cost over $33 million to reduce impacts caused by erosion and sedimentation of the Strontia Springs and Cheesman Reservoirs. Although the risk of these high severity fires is lower in the Blue River watershed than many locations throughout the Front Range, the consequences of a high severity fire would be catastrophic for much of the state of Colorado.

As we continue to act as good stewards for our wild spaces to promote ecosystem health and water provisioning for the benefit of all, collaborative efforts that cross ecosystem boundaries and focus on landscape-scale management will provide the most benefit for the largest number of users.



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"Get Wild" publishes on Fridays in the Summit Daily News. Libby Pansing is a board member of the Blue River Watershed Group, a local non-profit that works to protect and restore the Blue River watershed. She holds a doctorate in forest ecology and works as a forest and restoration scientist for American Forests.