

How do Colorado ski areas prepare for a changing climate? Ask Eldora Mountain Resort.

by **Shannon Mullane** | Mar 12, 2024 | **Climate and Drought, Infrastructure, Recreation, South Platte, Water Supply** |



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Peterson Lake is seen March 5, 2024, near Eldora Mountain Resort. The resort draws water from the lake for snowmaking on the slopes. (Olivia Sun, The Colorado Sun via Report for America)

Eldora Mountain Ski Resort is eyeing new water storage sites in Boulder and Gilpin counties as it plans for more ski runs and a drier future.

Eldora isn't the only ski resort in Colorado that's in need of more water to make snow, and to operate toilets, water fountains and restaurant kitchens. Ski resorts make up a tiny slice of Colorado's overall water use, but they'll likely need to boost their supply by about 41% by 2050, according to state estimates.

In December, Eldora started the vetting process in water court for its hoped-for storage expansion – a proposal to turn three natural depressions into storage ponds and expand three existing reservoirs.

In response, some concerned citizens are calling for more transparency, citing environmental concerns and trying to avoid any negative impacts to downstream water users.

"We know that climate change is real, and we've got to anticipate having some low-weather years where we need more water storage just to stay in business," said Brent Tregaskis, the resort's general manager. "That's a big part of my motivation, is to be prepared for the future."

Eldora Mountain Resort, located 21 miles west of Boulder, offers 680 acres of terrain to beginners, experts and any Front Range snow fanatics hoping to avoid the Interstate 70 traffic jams on the way to larger resorts.

Eldora wants more water primarily to make more snow. Snowmaking – which typically involves pumping water from ponds through machines that spew out snow onto the slopes – has been vital for resorts since the 1980s as a way to guarantee good runs even if snow storms are few and far between.

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Throughout Colorado, resorts collectively used about 5,620 acre-feet of water per year to make snow as of 2015, according to the Colorado Water Conservation Board, a state water policy agency. By 2050, that use is expected to increase marginally to 7,950 acre-feet per year.

Cities, towns and industries like the ski industry will also face water shortages by 2050. Statewide, the gap could be up to 740,000 acre-feet in dry years, according to the 2023 Colorado Water Plan.

One acre-foot roughly equals the annual water use of two to three households.

For snowmaking, resorts need dependable water supplies in dry years – and for that water to be usable in the winter, resorts need storage.

“The name of the game was storage. That’s the bottom line,” said Glenn Porzak, a water lawyer who has worked with resorts for more than 30 years to corral water rights and develop storage.

Eldora’s search for water

Eldora uses about 320 acre-feet of water storage in Peterson Lake, Lake Eldora and Kettle Pond. But even with that capacity, the resort had eight runs that it could not make snow on this year, according to Eldora.

The resort also needs more water to make snow for its already-approved Jolly Jug expansion, which will add five ski trails, including 27 acres of cut trails and 35 acres of gladed skiing.

In December, Eldora Enterprises LLC submitted an application to Division 1 Water Court to explore its options to start storing more water.

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earthen dams on natural depressions to create ponds at three new sites: Lake Theo, Boneyard Pond and Little Hawk Pond. The new sites' surface areas would be between 1.5 acres to 4 acres, and all six ponds are on the resort's property.

If the water court approves all of the sites, the resort could access up to 197 acre-feet of additional storage for a total of around 517 acre-feet, according to Eldora. For reference, Dillon, Cheesman, Cherry Creek, Reudi, Blue Mesa and many other main reservoirs in Colorado store between 79,000 acre-feet and 829,500 acre-feet of water.

If approved, the new water rights would be very junior, dating to 2023 or 2024, which means the resort would only get this new water when there is more than enough to go around. More senior, downstream rights in the same river basin date back as early as 1859 and get water first in times of shortage.

The water court process can take years, and the resort would need to go through environmental analyses, permitting processes and financial planning to actually turn any of the storage sites into a reality.

"We're on the east side of the divide, so we serve a great need to the Front Range. And we're a busy, smaller ski area, and we don't get as much snow on this side of the divide," Tregaskis said. "We would not be in business if it weren't for snowmaking."

"We're all sourcing from the same stream"

The plan has drawn opposition. The environmental group Save The World's Rivers called for more transparency and community engagement to ensure that the area's watershed is protected.

The Water Users Association of District No. 6 – which comprises the majority of senior water rights holders in the Boulder Creek basin, like Boulder County, Lafayette and large agricultural diverters – primarily wants to make sure no downstream diverters are adversely impacted.

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Downstream water users expect water to arrive at the time, location and amount it's supposed to arrive in, said Scott Holwick, an attorney at Lyons Gaddis who represents the association.

"They're entitled to all the water coming down the creek, and Eldora's entitled to exactly zero of that if the people below have a need for it and can use it," Holwick said. "If what Eldora is doing changes the amount that's coming down, then the people below could say you're 'injuring' me."

Residents in the nearby town of Nederland have raised questions about environmental impacts, said Miranda Fisher, town and zoning administrator for Nederland.

"Our community is aware. Our community is concerned, from the ones I've heard from. I don't want to speak for the majority," Fisher said. "What is the long-term impact if there's more diversion happening off the stream? Infrastructure development, what would that look like for Eldora?"

Water is the town's No. 1 infrastructure priority, Fisher said. Currently, the town's needs are met by a junior water right to 39.6 acre-feet. But with growth on the horizon, Nederland wants to secure rights to an additional 100 acre-feet of water. That means the town is also looking for storage reservoir locations nearby.

Nederland's town board, attorneys and engineers are reviewing Eldora's proposal to determine if there are any possible impacts to the town's water, Fisher said.

"We're all sourcing from the same stream, and so it's really important that we understand what they're doing, and of course when the time comes, that they understand what we're doing," she said.

What about the little mollusks?

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orage sites are near or in several critical wildlife habitat areas designated by

Boulder County. Elk migrate through the nearby Arapaho Ranch. Peterson Lake has been a home to the Rocky Mountain capshell, a small freshwater mollusk that is federally designated as a sensitive species.

The mollusk can only live at certain elevations, and in Colorado, it has only been found in Boulder County. In the county, surveys have only found it at Peterson Lake, said Susan Spaulding, an environmental resources specialist for Boulder County.

Lake Eldora is in the Buckeye Basin, another designated habitat in part because beavers and a plant called willow carrs have been found there. The thick willow stands comprise 1% of the mountain landscape in Boulder County and support three times the breeding birds compared to other habitats.

Willow carrs are highly sensitive and could be impacted by changing flows in streams, like if water levels are depleted because more water is diverted or stored upstream.

“Less water flow, then there’s less water for the willows,” Spaulding said. “However this works out into the future, we would happily work with Eldora Ski Resort – again, as we have in the past – to comment on any sort of habitat mitigations that might be helpful.”

For its part, Eldora said its plans put a heavy emphasis on environmental needs.

“This was a solution that had the least environmental impact of any other solution. ... Everything else was moving more earth, or potentially building a new dam,” Tregaskis said. “We really tried to do this in a way that had the smallest environmental impact as possible.”

*This story originally appeared in the **Colorado Sun***

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