

# Got water?

## More questions than answers on aquifer capacity

The question must be asked: Do we have enough water?

There are no fewer than four comprehensive studies on Moab's aquifer that have been completed in recent years and all of the results point to one inescapable conclusion: More studies must be done to determine with any degree of certainty how much water is available for the community now and in the future.

Faux Falls was created by a diversion of Mill Creek to feed Ken's Lake, which provides agricultural water in Spanish Valley. Photo by Doug McMurdo

The Moab City Council discussed the issue at the urging of Council Member Mike Duncan during a special meeting in mid-December.

City Engineer Chuck Williams provided a comprehensive PowerPoint on the issue. His message was one of uncertainty despite the recent studies, known as the USGS Report, which was completed in 2019 and focuses on groundwater resources in the Spanish Valley watershed and in Grand and San Juan counties. The Gardner Report is a "rethinking" of a groundwater flow system that includes a

case study in Spanish Valley; four of the five phases of the Kolm Report are done. It includes a look at the Pack and Mill creek subsystems, the overall Spanish Valley system water monitoring plan, and safe yield, which estimates the annual recharge to the aquifer. There is also a water distribution and storage plan.

"I don't think we're ready to say what the number is," said Williams. "We can clearly do a range of numbers."

Regardless of how many acre feet are in Grand County's aquifer, Williams said the recent scientific reports don't completely line up with one another despite his staff's best efforts to compare "apples to apples rather than apples to oranges."

The active sources for water in the county include four springs, three wells — two culinary and one irrigation — one 1-million gallon storage tank, a 48-mile pipe network that spreads across nearly 35 square miles known as "source protection areas."

Williams said the aquifer yields between 1,800 and 2,400 acre feet of water a year. For perspective, an acre foot of water is equal to 325,851 gallons. When Ken's Lake is full it holds 3,000 acre feet.

He said the range is because the amount varies year to year. Key to his report was the need for the city to use best

management practices in conserving water and to not be shy when funding the system. That hasn't happened as Moab's pipe system dates to World War II for the most part and the city provides service to 1,746 residential customers and 562 businesses, a stunningly high number for a city of about 5,200 residents.

On the good news side, the city owns 9,663 acre feet of water rights, which is likely three times or more than what is actually available, but who knows for sure?

"More scientific work is needed to reach consensus as to the amount of undeveloped water available," said Williams. "In the meantime, water conservation measures should be enhanced to make the most of the water we have." He encouraged the city council to participate in the Utah Division of Water Resources' push to collect more data and information.

One city asset is Assistant City Manager Carly Castle, who specialized in water policy at her previous position in Salt Lake City. She said she understands securing a water supply is a priority in 2021 and she hopes to build a coordinated effort to develop water resources. She also cautioned the council that it's important to "ensure funding for construction and maintenance of water storage and delivery systems."

That includes replacing a well and upgrading the system, a

project that could begin this year if the council approves the "relatively small dollar cost."

Duncan is all for more studies, but he's not willing to wait for the results. "Now would be a good time to move to a water-restricted future," he said. Citing Moab's 2% to 3% growth each year, Duncan said wells and spring levels are declining. Climate change isn't helping. He said there are years with little snow in the mountains, periodic summer drought — the Southwest is an extreme drought in 2021 — there are El Nino and La Nina precipitation cycles, and the world is undoubtedly getting hotter due to climate change.

Duncan noted there are "quite a few private wells" in Grand County and nobody knows what they are taking from the aquifer and better accuracy estimates are needed.

"Recharge doesn't equal discharge," he said. "We could be sucking it dry right now and we wouldn't even know."