Declining water level, sinking land highlight water problem

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by Ashley Langston

This is the third in a series of six articles about water in Iron County. The first published Jan. 28 and the articles will run weekly through March 4.

IRON COUNTY – Since at least the 1960s, more water has been removed from Cedar Valley's underground water supply than has been replenished, and that problem is only getting worse.

This means declining water levels, higher pumping costs, and the reality that the valley could eventually run out of water if action is not taken. With the knowledge of this problem, the Iron County Commission created the Central Iron County Water Conservancy District in 1997, under the Utah Water Conservancy District Act.

The CICWCD is controlled by a seven-member board of directors, with each member appointed by the Iron County Commission. Currently, members come from each community in the district, with an agricultural representative as well. The district has the responsibility to "conserve, develop and stabilize supplies of water" for the Cedar Valley, according to its website, www.cicwcd.org.

Many small population counties in Utah have also created water conservancy districts, such as Kane, Uintah, Duchesne and Box Elder, and some water conservancy districts have been created for larger geographical areas, such as the Central Utah, Washington County, Weber Basin and Jordan Valley Water Conservancy Districts, said Jack Barnett, of Barnett Intermountain Water Consulting, a company working with the CICWCD.

Water conservancy districts were created because city and town officials are responsible for looking out for their individual municipalities and water is a "larger geographical issue," Barnett said. Even county commissioners, as elected officials, "may not have the tenure to address long-term planning and implementation strategies necessary for water development."

The Central Iron County Water Conservancy District is tasked with conserving, developing and stabilizing existing supplies of water for the use of residents, agriculture and livestock, manufacturing, power, wildlife, and aquatic life, according to its mission statement.

The mission statement stresses the importance of water for communities, industry, and irrigation. The CICWCD's geographical area includes much of unincorporated Iron County, Cedar City, Enoch, and Kanarraville.

The district is also responsible for developing additional water supplies and should "plan for, finance, design and construct reservoirs, pipelines, water distribution systems, wells, drainage

improvements and other improvements necessary to utilize water supplies within the CICWCD boundaries."

After its formation, the district cooperated with Cedar City, Enoch, and state and federal agencies to initiate a new study, which was published in 2005 by the U.S. Geological Survey. The study confirmed concerns that the Cedar Valley was using too much water, Barnett said. The underground aquifer was being overdrawn, or more water was being pumped out than was being regenerated.

An average of 9,100 acre-feet of water is being removed each year in excess of what is replaced (an acre-foot of water is about 325,851 gallons). Additionally, groundwater levels have dropped in some areas of the valley by as much as 114 feet since 1939, Barnett said.

In 2010, the Utah Geological Survey released a study reporting that fissures, or cracks in the earth, were forming and growing in the Enoch and Quichapa Lake areas because water users were overdrawing the aquifer and the land was subsiding, or sinking. An amended version of the study was released in 2014 as Special Study 150, which can be found at www.geology.utah.gov.

The original study was contested by Cedar City Surveyor Curt Neilson and other licensed surveyors who said the UGS had violated state law by surveying without a license, and that the subsidence data it had provided was inaccurate. In 2011, when the CICWCD board rejected the study, Neilson said he believed subsidence was not a wide-spread problem in the valley, but actually was a localized problem near fissures in the Quichapa and north Enoch areas.

The 2014 study reported a less significant amount of subsidence, but expressed concern with possible growth of the fissures. Monroe said some board members and area residents feel geographic features or other factors may be contributing to the fissures.

Tyler Knudsen, UGS project geologist, said the Enoch fissure is located along a fault, and although there are reports of the fissure dating back 50 years or more, aerial photographs show that it appears to be growing, extending south in the last 20 to 30 years.

"It's obvious that it's currently moving," he said.

Knudsen added that subsidence and fissures recorded by the UGS in the Cedar Valley follow the signs of aquifer overdrafting that have been seen in the Las Vegas area.

"Vegas is almost a perfect analog," Knudsen said. "You can kind of look at Las Vegas as kind of a canary in a coal mine kind of situation for us."

While not everyone in the Cedar Valley agrees on the amount of subsidence and cause of the fissures, it is widely accepted that the Cedar Valley aquifer discharge should not exceed the recharge, and action needs to be taken to bring it into balance and ensure a water supply for future generations.

Monroe said the district has been working on multiple solutions, including conservation and three large-scale projects that are exactly in line with the Utah Geological Survey's recommendations to prevent over pumping and restore the aquifer.

For more information on the options that have been explored and action being taken, look for the upcoming articles in this weekly series.

Read more:Iron County Today - Declining water level sinking land highlight water problem