

Latest study should further dampen Las Vegas' appetite for rural groundwater

Ely Daily Times, October 10, 2014

<http://www.elynews.com/2014/10/10/latest-study-dampen-las-vegas-appetite-rural-groundwater/>

A new study by the U.S. Geological Survey published this summer has added credence and hard numbers to the arguments from opponents to a plan by Las Vegas water utilities to tap 84,000 acre-feet of groundwater from valleys in White Pine and Lincoln counties.

The study reviewed water data and used a computer simulation to research a 9,000-acre swath of land collectively called Snake Valley that straddles the Nevada-Utah border and includes a number of interconnected aquifers and named valleys. As Jason King, Nevada's state engineer who is responsible for water rights allocation in Nevada, found previously, the study noted that tapping water in one area would have far reaching affects.

Proposed increases in water withdrawals in and near Snake Valley by the Southern Nevada Water Authority would likely result in declining groundwater levels and a decrease in natural discharge to springs and streams, the study warned.

"Because of the magnitude of the proposed development project and the interconnected nature of groundwater basins in the region, there have been concerns that new pumping will disrupt Snake Valley's groundwater supplies and threaten the wetlands and ranches that rely upon them," said Melissa Masbruch, USGS scientist and lead author of the new report. "This study can help assess the effects of future groundwater withdrawals on groundwater resources in the Snake Valley area."

Masbruch added, "This new model represents a more robust quantification of groundwater availability than previous studies because the model integrates all components of the groundwater budget."

The study calculated all the groundwater recharge for Snake Valley from various sources, including precipitation, unconsumed irrigation and inflow from other aquifers and found that the valley groundwater receives about 175,000 acre-feet. But when all of the outflow is added up — current wells, springs, streams and outflow to other aquifers— it is almost precisely the same amount of water — equilibrium.

This prompts the authors of the study to warn, "Increased well withdrawals within these high transmissivity areas will likely affect a large part of the study area, resulting in declining groundwater levels, as well as leading to a decrease in natural discharge to springs ..."

It is those springs and streams that support livestock, agriculture and a vast array of wildlife, some of which are threatened or endangered. Declining groundwater levels would mean local wells might have to be drilled deeper, a very expensive proposition for local landowners and homeowners.

A 75-page lawsuit filed earlier this year by a coalition of local governments, private organizations and Indian tribes made this point but without having precise figures to support their suspicions. Among the plaintiffs in the case are White Pine County, the Great Basin Water Network, the Sierra Club and the Central Nevada Regional Water Authority, which addresses water resource issues for Churchill, Elko, Esmeralda, Eureka, Lander, Nye, Pershing and White Pine counties or about 65 percent of the land in Nevada.

“The proposed pumping would amount to a devastating groundwater mining project, under which the groundwater system would not even begin to approach equilibrium for thousands of years, with the potential of never reaching equilibrium,” the suit contended.

The figures in the USGS study also add precision underpinning to a ruling a year ago by Senior Judge Robert Estes who called the water authority’s plans for the water transfer “arbitrary and capricious” because its plans for monitoring, mitigating and managing the water take contained no precise triggers.

“There are no objective standards to determine when mitigation will be required and implemented,” the judge wrote. “The Engineer has listed what mitigation efforts can possibly be made, i.e., stop pumping, modifying pumping, change location of pumps, drill new wells ... but does not cite objective standards of when mitigation is necessary.”

Judge Estes concluded that if “it is premature to set triggers and thresholds, it is premature to grant water rights.” He remanded the engineer’s rulings for recalculation of water availability and further studies.

If nothing else, the Estes ruling is almost certain to reduce the amount of water Las Vegas could tap from its northern neighbors.

A study for the water authority by Hobbs, Ong & Associates of Las Vegas found that Las Vegas water rates would have to triple to pay for the \$15 billion project. The less water drawn, the higher the cost per gallon.

It seems unlikely the water authority can justify spending that kind of money if the spigot could be turned off because of damage of the environment, which this study suggests is likely.

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