

## CURLEW VALLEY WATER ISSUES PUBLIC MEETING

APRIL 28, 2009

This meeting was held in the Snowville Town Hall, located at 20 West Main Street Snowville, Utah at 6:00 PM. Notices were mailed to water right holders in the Curlew Valley as well as several public agencies. There were 20-25 people in attendance.

Assistant State Engineer Matt Lindon started the meeting at 6:00 PM welcoming those in attendance. Mr. Lindon stated that the meeting was to present information from the recently published Utah Geological Survey Study 126, which pertains to the Geology and Ground-Water Chemistry of the Curlew Valley in Utah and Idaho and to get the local slant on how the water users see the issues. He then introduced the personnel and presenters from the Division of Water Rights and the Utah Geological Survey. Mr. Lindon then touched on some points that the study identified, declining ground-water levels, declining spring flows and water quality. He also stated that the study area consists of some classic western water issues in that two states are involved, the interface between surface water and ground water and the competition for water between agricultural users and environmental issues. He then turned the time over to James Greer, a Professional Engineer with the Technical Services Section of the Utah Division of Water Rights.

Mr. Greer stated that he would be discussing the history of water right policy in the Curlew Valley as well as diversion and depletion values. He reviewed the dates and results of several previous meetings and studies conducted to address ground-water issues in the Curlew Valley. Of significance was the 1974 study conducted by the United States Geological Survey, which identified three ground water flow systems that transmit water in a north to south direction toward Great Salt Lake. Mr. Greer related there are 255 total water rights in the Utah portion of the Curlew Valley and that the Idaho side of the valley has 147 total water rights. He related that Utah has approved water rights to divert 83 thousand acre-feet of water with an associated depletion value of 69 thousand acre-feet of water. He also identified that the estimated annual recharge to ground water is 74 thousand acre-feet of water. Utah has a permitted depletion of 40 thousand acre-feet of water and Idaho has an annual permitted depletion value of 54 thousand acre-feet of water. The net result is that there are 20 thousand acre-feet of water permitted to be depleted on an annual basis in excess of the estimated average annual recharge. Mr. Greer concluded with identifying that there are 24, 500 acres of irrigated ground in the Utah portion of the Curlew Valley and that Idaho has 34, 500 acres of irrigated land on their side of Curlew Valley. He then opened the floor to questions.

Q. Is the irrigated acreage in Utah and Idaho identified by which flow systems provide water to the acreage?

A. There was no determination as to if the irrigation is provided by ground water or surface water and it simply reflects total use.

Q. Your power point shows a recharge of 74 thousand acre-feet and that 94 thousand acre-feet of water is being diverted, so we are currently exceeding the recharge by 20 thousand acre-feet of water every year?

A. That is a good question. If we are fully utilizing 94 thousand acre-feet of water per year then we are exceeding the recharge rate. However, Utah is currently using an estimated 36 thousand acre-feet of permitted water and we assume that Idaho is probably using a lesser amount also.

Q. Is the recharge amount broken down to show how much water is going to the underground and also that simply runs off to surface sources?

A. No this report identified the amount of estimated recharge to the main ground –water aquifer. Essentially they conduct a water balance which considers precipitation, water consumed by vegetation, surface source flow rate with the belief that the water that remains from the annual precipitation is recharging the ground water.

Dr. Hugh Hurlow, a Professional Geologist with the Utah Geological Survey, then presented information from his Curlew Valley study.

Dr. Hurlow related that the study had three main areas of emphasis, geology, geophysics and ground water geochemistry. The purpose of the study was to characterize the geology of the Curlew Valley and the basin fill aquifer, determine the chemistry of the groundwater, determine the sub surface structure of the valley fill aquifer through a gravity survey and to create a new geologic map of the region. Some of the points of interest that Dr. Hurlow highlighted were that three regional ground water flow systems were identified in the Curlew Valley, they are the Kelton, Juniper-Black Pine and Snowville-Holbrook. These are differentiated by the age of groundwater, water chemistry and by various isotopes present in the ground water. The geophysical gravity survey identified a proposed “Snowville Fault Zone”, which Dr. Hurlow believes acts as a pathway for some of the Snowville-Holbrook flow path water to mix with the Juniper-Black Pine flow system. He then went on to how discuss declining ground water levels in the valley could be attributed to reduced precipitation in the recharge areas along with increased ground water pumping for agricultural purposes. He also identified the evaporation of irrigation water that leaves behind minerals and fertilizers in the soil which are then flushed into the aquifer during episodes of high precipitation and the occurrence of warm mineralized water beneath the Snowville Flat agricultural area as the prime reasons for diminishing ground water quality. He also stated that based upon the isotopes present in the discharge of the Locomotive Springs complex that there appears to have been mixing of the water from the Juniper-Black Pine and Snowville-Holbrook flow paths via the proposed “Snowville Fault Zone.” It is his opinion that the decreased discharge flows from the Locomotive Springs Complex can be attributed to reduced precipitation and recharge in the source areas along with increased ground water pumping in the Snowville Flat area which has lowered the ground water levels and seems to have influenced the regional ground water flow patterns.

Will Atkin, a Professional Engineer and Regional Engineer for the Utah Division of Water Rights, Northern Region concluded the presentation by reviewing some of the previous points and told the attendees that he would like to hear what they thought about the information that was presented.

The following is a synopsis of questions asked of Dr. Hurlow after his presentation.

Q. The previous 1974 study showed that groundwater pumping in the Snowville Flat area did not influence the spring discharge at Locomotive Springs, but this new study indicates otherwise, what happened?

A. We have shown that there is some contribution from the Juniper-Black Pine flow system through the presence of specific isotopes found in the Locomotive Springs discharge that indicate that some of the water is from the Snowville-Flat area.

Q. There are several good wells and bad water quality wells in the Snowville Flats area so how can you determine that this is the water, since it has a variety of water qualities that is showing up in the Locomotive Springs?

A. We are using the isotopes not just water chemistry to determine the mixing of the two flow paths, which then discharge from the Locomotive Spring Complex.

Q. Could past earthquake activity in the area influence water discharge and occurrence?

A. Ground water occurrence and regional flow paths are large scale features or events established over a period of time, an earthquake may change a place of discharge but won't have along term effect on flow paths or the water balance for an area.

Q. This study seems to conflict with the 1974 study that indicated that the Snowville Flat agricultural area ground water pumping had no effect on the discharge of the Locomotive Springs. This information will just give the Feds and the State the ammunition to change the policy to protect the springs. Are our wells and water rights in jeopardy?

A. Our purpose tonight was to present the information of the study and not to discuss or set a new policy for the area.

Mr. Lindon adjourned the meeting at 7:35 PM.