

In response to public comments received regarding the State Engineer's December 8, 2016 public meeting concerning the development of a groundwater management plan in Cedar Valley in Iron County, the Division of Water Rights provides the following information:

Dividing Cedar Valley into Sub-Areas

Spatial distribution of groundwater withdrawals and hydrologic properties vary throughout the groundwater basin. This results in non-uniform lowering of groundwater levels. However, studies indicate the aquifer is hydraulically connected throughout the groundwater basin without any significant flow barriers. Stresses to one part of the groundwater basin have an eventual effect on the entire basin. The Rush Lake area has not experienced groundwater level declines, but because of the hydraulic connection with the rest of the groundwater basin, will eventually experience water level declines. Because of the hydraulic connectivity of the groundwater basin throughout Cedar Valley, the groundwater management plan will be developed for the entire groundwater basin as a single unit, with the goal of limiting withdrawals to safe yield. The safe yield of the groundwater basin is estimated to be 21,000 acre-feet per year.

Proposed Changes to Appropriation Policy

The purpose of a groundwater management plan is to balance withdrawals with the safe yield of the basin. It is possible that areas of concentrated pumping could see continued groundwater level declines even after balancing total basin withdrawals with the safe yield. Through changes in appropriation policy, additional groundwater level declines may be minimized by not allowing water right changes to areas of greater groundwater level decline. For this reason, the State Engineer is considering modifying the current policy restricting changes between north and south of Highway 56. The policy may be modified to restrict changes into specific areas of groundwater decline, namely near Quichipa Lake and Enoch. The factors in the decision to modify the appropriation policy are the hydraulic connection between groundwater north and south of Highway 56 and the locations of the areas of greatest groundwater decline. The goal of a policy change would be to prevent the potential for additional groundwater withdrawals in locations of greatest groundwater decline.

Supplemental Rights

There are many groundwater rights that are supplemental or auxiliary to surface water sources within Cedar Valley. Concern has been expressed as to whether or not these supplemental groundwater rights are being used appropriately with regard to their supplemental nature. Generally, a supplemental water right is used when the source of water the water right supplements is no longer available. However, the circumstances of each supplemental groundwater right filing make it difficult to state what a basin-wide rule for the use of

supplemental groundwater rights might be. In short, the proper exercise of a supplemental groundwater right in Cedar Valley depends on the water right. The Division will be more closely monitoring the use of supplemental groundwater rights in Cedar Valley.

There have also been questions as to how these supplemental groundwater rights fit in to a groundwater management plan with priority distribution. Through investigation of the groundwater rights in Cedar Valley and development of a priority listing for those rights, it has become apparent that nearly all of the supplemental groundwater rights in the groundwater basin are senior rights. The supplemental groundwater rights would not be regulated by priority in limiting groundwater depletion to safe yield. However, a question of importance remains – what will be the long-term average depletion associated with these supplemental rights? The amount of depletion associated with the supplemental groundwater rights affects the number of junior water rights that may ultimately be curtailed in order to keep total groundwater depletion within the groundwater basin's safe yield. It is difficult to estimate long-term depletion of supplemental groundwater rights due to lack of data and questions as to whether or not supplemental groundwater rights have been used appropriately in the past. The Division is using and plans to continue to use mapped irrigated acreage and estimated crop depletions to calculate basin-wide irrigation depletion amounts to ensure depletions do not exceed safe yield. Accurately determining the depletion amounts associated with supplemental groundwater rights may necessitate surface and/or groundwater diversions be measured for those fields receiving both sources of water.