

Send Questions / Comments To:

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PAROWAN VALLEY GROUNDWATER MANAGEMENT PLAN (DRAFT)

Introduction

The objectives of this groundwater management plan are to ensure groundwater withdrawals do not exceed safe yield, to safeguard the physical integrity of the aquifer, and to protect water quality in the groundwater basin of Parowan Valley. The intent of this plan is to provide specific management guidelines for this area pursuant to Section 73-5-15 of the Utah Code.

The safe yield for the groundwater basin is estimated to be 22,000 acre-feet per year. Groundwater withdrawals have consistently exceeded safe yield, making this groundwater basin a critical management area. From 2010 to 2019 well withdrawals averaged 35,000 acre-feet per year and the depletion from these withdrawals was approximately 33,000 acre-feet per year. It is estimated that average actual depletion must be reduced by 11,000 acre-feet per year in order to balance recharge and depletion amounts in this groundwater basin.

Affected Area

This groundwater management plan applies to the groundwater basin within the drainage area of Parowan Valley as shown in Figure 1.

Priority Regulation

In order to reduce actual depletion to balance recharge, water rights will be regulated according to priority. Regulation will be implemented gradually, following the schedule outlined in Table 1. After each regulation phase is implemented, only water rights senior to the listed priority date will be authorized to divert water; water rights having a priority equal to or later than the listed date will be curtailed. A list of groundwater rights and their priority dates is posted and will be maintained on the Division of Water Rights website.

The regulated priority date for a given phase in Table 1 may be adjusted by the State Engineer to a later priority date based on the average annual artificial recharge or reductions in depletions that occur within the groundwater basin during the 10 years prior to the target date. Each year in the annual distribution system report, the State Engineer will report on the status of the aquifer, the estimated annual depletion resulting from groundwater withdrawals, amount and disposition of artificial recharge, and any adjustments to the regulated priority date for a given phase. Recharged

water under projects for which a recovery application has been approved and actively pursued will not be considered in adjusting the regulated priority date for a given phase.

Table 1. Priority Regulation Schedule

Phase	Implementation Date	Priority Date (YYYY-MM-DD)	Estimated Depletion Remaining (acre-feet)
		No Regulation	33,000
1	January 1, 2043	1955-01-01	30,000
2	January 1, 2060	1954-01-01	29,000
3	January 1, 2070	1953-01-01	27,000
4	January 1, 2080	1951-12-05	22,000

Depletion Calculations

For purposes of this groundwater management plan, annual depletion from irrigation will be calculated using an annual crop survey prepared by the distribution system commissioner. The crop survey will tabulate the irrigated acreage for every crop type in the management plan boundary. It will include acreage supplied by groundwater and acreage supplied by both surface and groundwater sources. The crop survey will be published every year in the annual distribution system report.

Depletion due to municipal use will be the groundwater diversion minus any return flow resulting from the groundwater portion of wastewater effluent returning to the groundwater system and minus any return flow resulting from the groundwater portion of water used for lawn and garden irrigation and any other municipal purposes.

Depletion due to any other uses will be evaluated on an individual basis. Water users will be required to report diversions and depletions associated with these uses as directed by the State Engineer.

Artificial recharge due to recharge projects will be considered as an accretion of groundwater and will be a part of the depletion calculations. To be considered in the depletion calculations, the artificial recharge must be reported to the Division of Water Rights under a recharge permit approved by the State Engineer. The recharged water, if not diverted and left in its natural course, must not have previously recharged the groundwater aquifer.

Monitoring Plan

Data collection and monitoring are necessary to protect the resource and achieve the objectives of the groundwater management plan. This monitoring will inform future hydrologic studies, may be used to refine elements of this plan, and will allow the State Engineer to ensure water is diverted and used efficiently and in accordance with water rights. Ultimately, this monitoring data will show when the objectives of the plan have been achieved.

Beginning in 2030, wells and surface diversions within Parowan Valley that are regulated by the commissioner will be required to install, operate, and maintain approved flow-measuring devices. Flow measuring devices must conform to rules the State Engineer may establish regarding their installation, operation, and the timing and frequency of data transmission or water use reporting. All flow-measuring devices must be accessible to the commissioner and to other authorized employees of the State Engineer.

The State Engineer will monitor actual diversion, depletions, and groundwater levels data to determine the effectiveness of the plan. As depletions approach safe yield it is anticipated that groundwater levels will stabilize with time.

Voluntary Arrangements

Pursuant to Subsection (4)(b) of Section 73-5-15 of the Utah Code, in consultation with the State Engineer, water users may agree to participate in a voluntary arrangement to manage withdrawals on a system other than by priority date. Any voluntary arrangement shall be consistent with existing statute and must not affect the rights of water users who do not agree with or do not participate in the voluntary arrangement. Voluntary Arrangements associated with this Groundwater Management Plan will be posted on the State Engineer's website.

Adaptive Management

The phased reductions in depletions over long intervals as specified in Table 1 provide an opportunity for groundwater levels to respond to changes in groundwater depletions. Although a reduction in the rate of groundwater level decline over time will be used as an indicator of approaching equilibrium, the State Engineer recognizes that when the aquifer is in balance groundwater levels can fluctuate in a significant manner based on many different influences. If during any phase of the plan the State Engineer determines that groundwater depletions no longer exceed safe yield, future planned reductions in depletion as outlined in Table 1 will not be implemented.

This plan may be amended at any time through a public process in accordance with statute.

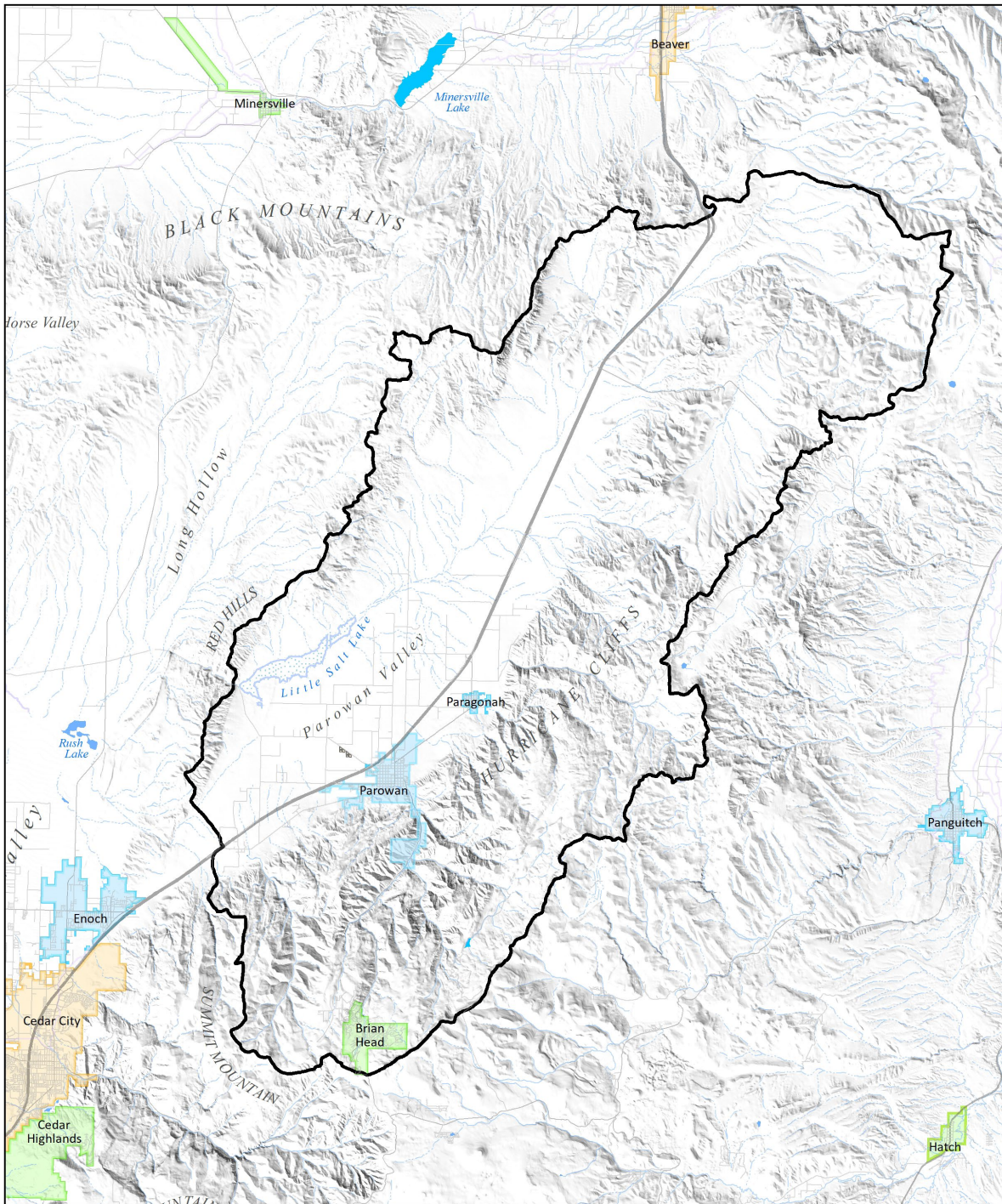


Figure 1
Parowan Valley Groundwater Management Plan Area

Management Plan and Area 75 Boundary

N

0 5 Miles