

ATTN: EMERY/JOHNS VALLEY GROUNDWATER RESOURCES AND APPROPRIATION POLICY

INTRODUCTION

The following comments are submitted pursuant to the publication by the Utah Geological Survey (“UGS”) of Special Study 172, titled “CHARACTERIZATION OF GROUNDWATER IN JOHNS AND EMERY VALLEYS, GARFIELD AND KANE COUNTY, UTAH, WITH EMPHASIS ON THE GROUNDWATER BUDGET AND GROUNDWATER-SURFACE WATER INTERACTION (herein, “UGS study” or “study”),¹ and also in response to the presentations made by personnel of the UGS and the Utah Division of Water Rights (“DWRi”) at a public meeting held in Panguitch, Utah, on November 14, 2024.

These comments have been prepared and are submitted Bill Loughlin, P.G., of Loughlin Water Associates, LLC, and Kerry Carpenter, P.E., of Carpenter Consulting, LLC, in behalf of several interested entities including Bedrock Water Company, LLC; KB Cedar, LLC; and Samuel M. Smith.²

The comments are presented in two parts, the first being specific to the findings in the UGS study, the second to the potential impacts of the study on DWRi’s contemplated appropriation policy³ for the study area. As might be expected, there will be substantial overlap in these general categories.

THE UGS STUDY:

FINDINGS AND CONCLUSIONS

At the outset, we recognize the significant expenditures of time, effort and resources necessary to conduct the UGS study. We commend the UGS personnel involved in this effort to design and implement the work; to gather, process and interpret a large amount of data. We are confident the results of the study, properly understood and employed, can be of meaningful value in guiding DWRi’s policy goals to optimize the sustainable long-term development of water resources in the study area, preserving both the physical and chemical integrity of the aquifer system⁴ as well as protecting prior water rights lawfully established in that aquifer system.

¹ Wallace, J., Schlossnagle, T.H., Ladig, K., Inkenbrandt, P.C., Hurlow, H., and Hardwick, C., 2024, Characterization of groundwater in Johns and Emery Valleys, Garfield and Kane County, Utah, with emphasis on the groundwater budget and groundwater–surface-water interaction: Utah Geological Survey Special Study 172, 76 p., 7 appendices. A PDF version of the study is available here: <https://geology.utah.gov/publication-details/?pub=SS-172>

² Mr. Smith is the applicant/owner of Change Application a52304 (61-3536).

³ It is understood that “appropriation policy” refers, in this case, primarily to the administration of Applications for Permanent Change of Water or “change applications,” especially those proposing to amend existing rights within the study area or the larger East Fork Sevier River drainage area.

⁴ The UGS study identifies several contiguous but distinct geologic features capable of storing and yielding groundwater to wells. For efficiency of discussion, these features are broadly referenced in the study as the “Valley Fill Aquifer” (“VFA”) and the “bedrock aquifer.” In these comments, those two components will be likewise referenced in a manner believed to be consistent with the use of those terms within the study.

Our review of the UGS study has given rise to several observations, questions, or issues that, we believe, are vitally important, but not all fully resolved in the published study. These include:

- The study estimates relatively large changes in groundwater storage over time, especially as depicted in Table 5 (pg. 58), evidently for the full study area, and in Table 6 (pg. 60), specifically for the Valley Fill Aquifer (“VFA”). We note that the primary “Input” or “Recharge” component of the estimates of groundwater storage change is precipitation;⁵ the primary “Output” is described as evapotranspiration (ET). Further, the ET estimated in Table 5 consists of several subtypes, the principal type being “Other ET.”

The “Other ET” value represents 99% of total ET and 97% of total Output. However, the basis for quantifying this value is not adequately defined or explained. We presume this value is produced by the Soil Water Balance (“SWB”) model used by UGS but remain uncertain how such a vital part of the estimated change in groundwater storage was generated. While we acknowledge the utility and value of models such as the SWB in furthering an understanding of the interplay of multiple environmental influences in a system, when modeled projections appear to conflict with explicitly measured data (e.g., long-term groundwater levels), those modeled projections must be viewed with due caution.

Table 5, titled *“Recharge and discharge estimates showing gains from precipitation and losses from evapotranspiration (ET) and runoff for the study area (in acre-feet per year),”* depicts Input/Output estimates for three years, 2019-2021; the averages reported in the last column of Table 5, however, are based on Input/Output estimates for five years, 2017-2021. Although the first word in the title is *“Recharge,”* which implies an effect on *groundwater*, Table 5 appears to, primarily if not exclusively, address inputs, outputs, and changes in storage of *surface water* in the study area.

We observed that the five-year average storage change (2017-2021) of +2,513 acre-feet in Table 5 is substantially lower than the storage change average yielded by the three-year (2019-2021) estimates reported, that being around +19,700 acre-feet.

We contacted UGS personnel regarding this matter and they provided the primary data used in the longer term 2017-2021 estimates, including precipitation, evapotranspiration and surface estimates for the five-year period. UGS further explained: *“You see a low [five-year] average value because the values for those two years [not shown in Table 5] were negative. These negative values could represent changes in soil water storage, or could be discrepancies from start and end times of the ‘year’ (water year vs. calendar year). [We are] . . . pretty sure this summary table is for calendar years. Note that the table you are looking at is for the surface water balance of the valley showing net inputs and outputs. Error in Precip and ET estimates for*

⁵ At page 57 under the heading **Water Budget Results for Johns and Emery Valleys**, the study states: *“. . . the surface-water drainage boundary is a groundwater divide and any possible interbasin flow reaching the valley-fill would be insignificant compared to other sources of recharge. Therefore, **precipitation is the only primary input to the system.**”* (Emphasis added.)

these watershed-wide values is about 15%. The average balance of the surface data was not a crucial part of our conclusions, which were more premised on the groundwater balance.”⁶

As explained by UGS, the substantial difference between the three-year and five-year average storage change estimates arises from negative estimated values for storage change in 2017 and 2018 (-35,867 acre-feet and -10,774 acre-feet, respectively). Precipitation records for those two years show 2017 as moderately above average (about 117% of the average for those five years), and 2018 as below average (about 64% of the five-year average).⁷ The evident lack of correlation between precipitation – recognized as the primary input variable for “Recharge” – and estimated storage change, especially for 2017, suggests that the estimates of Outputs for that year may reflect significant error.

Table 6, titled “*The valley-fill aquifer (VFA) water budget (in acre-feet per year),*” is, as noted, specific in estimating a water budget solely for the VFA, characterized as “. . . predominantly coarse grained to mixed grain size and . . . less than about 200 feet (61 m) thick in most places,” (pg. 8) and reports data for the five-year period of 2017-2021. The primary “Recharge” elements reported, in order of volume, are

- 1) Groundwater recharge from adjacent mountain bedrock;
- 2) Recharge from surrounding runoff; and
- 3) Precipitation infiltration.

Each of these inputs would be largely driven, again, by precipitation. Comparing the estimates of storage change in Table 6 to precipitation data for the same years, the estimate for 2021 appears anomalous. Although the precipitation for that year (based on UGS’s Table 5 data) was near normal for the five-year period (98.6%), the storage change estimated, -5,372 acre-feet, is the greatest estimated value in the table, most closely comparable in magnitude to the estimated positive change of 4,518 acre-feet for 2019, a year with a precipitation estimate of almost 140% of the five-year average.

The primary influence toward the substantial negative storage change projection in 2021 is the estimated discharge to the East Fork at the North Boundary, an estimated 7,435 acre-feet, again second in magnitude only to the estimate for the exceptionally wet 2019. We are concerned that the methodologies used in making estimates of groundwater storage changes – a more crucial consideration in guiding UGS’s conclusions, as stated in the email correspondence cited above – do not produce estimates obviously consistent with related data. This is especially concerning because estimates of net groundwater storage changes are a crucial consideration guiding DWRi’s groundwater administration policies.

⁶ Email from Paul Inkenbrandt, P.G., Senior Geologist, Nov. 12, 2024.

⁷In addition to the data provided by UGS, we also examined records published by NRCS for “Agua Canyon” and “Sevier Headwaters” at: <https://www.nrcs.usda.gov/programs-initiatives/sswsf-snow-survey-and-water-supply-forecasting-program> . These two data sets appeared to be reasonably well correlated.

To fully understand the potential impact of these data as reported in Tables 5 and 6, we believe these questions must be considered:

How did UGS use these data – especially the predominantly negative storage change values in the VFA as depicted in Table 6 – in drawing conclusions about the long-term health of the larger aquifer system in Emery Valley?

And, more immediately, how will DWRI use the projected storage change estimates in determining future appropriation policies?

- A related question: What do the long-term *upward or level* trends in water levels in the two U.S. Geological Survey (“USGS”) observation wells indicate about long-term changes in groundwater storage and sustainable yield of the VFA and bedrock aquifers?⁸

Figure 1, below, is a replication of Figure 15 from the UGS Study (pg. 30), as annotated (red text) and presented in the UGS presentation of November 14, 2024. The depicted hydrographs clearly indicate stable or rising groundwater levels over several decades.

Long-Term Water-Level Monitoring (USGS Data)

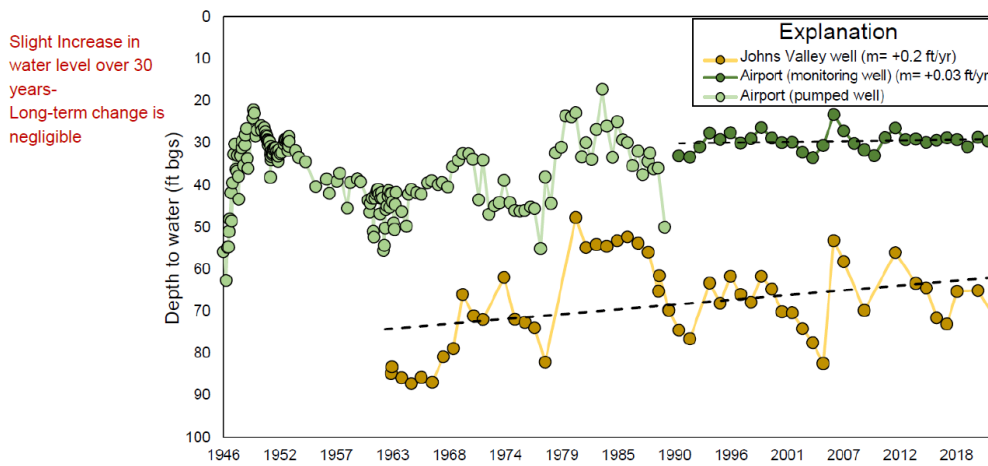


Figure 1: UGS Study Figure 15 / Public Meeting Presentation Image

- Further, what does the lack of a downward trend in groundwater levels in the Rubys Inn wells (UGS Site ID #s BC20W, BC21W, and BC22W) in Section 12, T36S, R4W, SLB&M, despite large and increasing groundwater withdrawals, indicate about changes in groundwater storage in and sustainable yield of the VFA?

The Rubys Inn wells have the following characteristics/history:

- Relatively high transmissivity values of almost 60,000 feet squared per day (ft²/day);
- Reported sustainable long-term pumping rates on the order of 200 to 275 gpm with relatively small drawdowns ranging from 1.6 to 5 feet;

⁸ The so-called Airport well reportedly monitors the bedrock aquifer in Emery Valley; the Johns Valley well reportedly monitors the VFA in Johns Valley (see “Water-Level Trends,” pg. 30 of the UGS Study).

- Sustainable long-term withdrawals which have reportedly increased from:
 - 0 acre-feet/year (“afy”) prior to 1981, to
 - 43 afy from 1981 to 1997, to
 - 142 afy from 1998 to 2014, and
 - 208 afy from 2015 to 2023.
- Consistent absence of measured groundwater level declines since the 1970s when the Rubys Inn wells were drilled and the 2018-2022 groundwater level measurements reported in the study. Figure 2, below, shows persistently stable groundwater levels evidently unaffected by the pattern of increasing diversions over the past four decades.

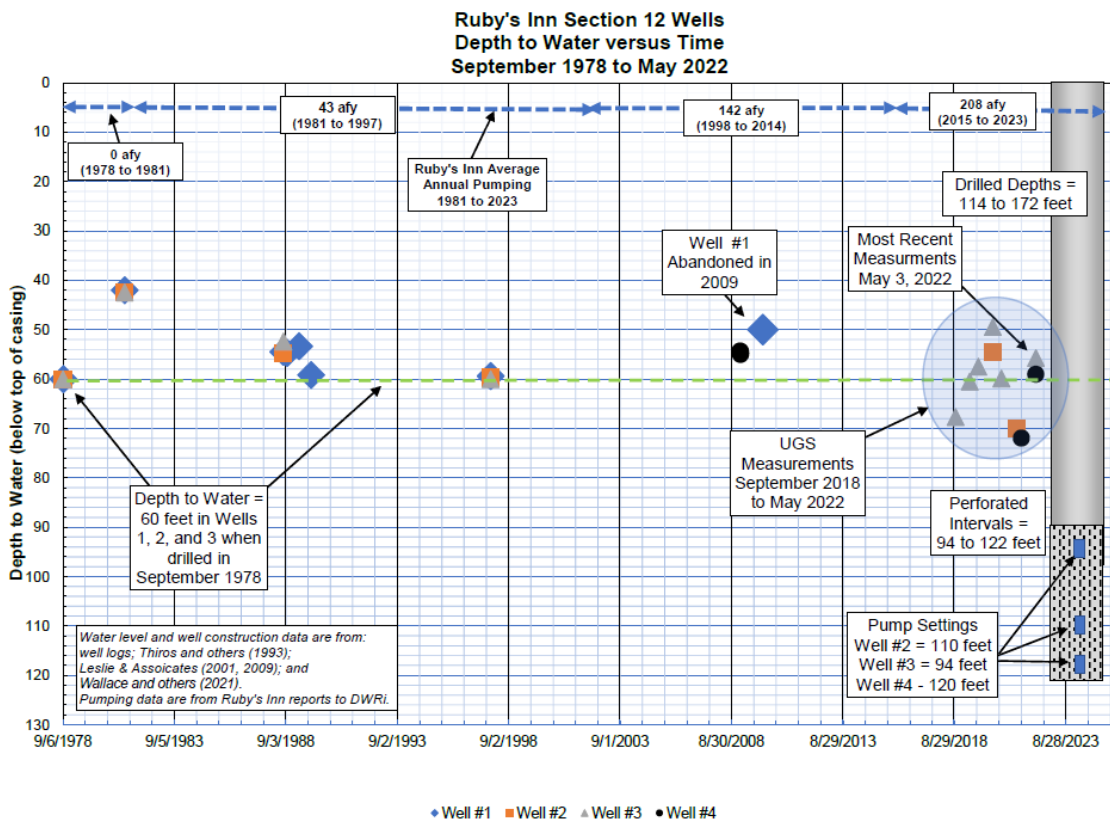


Figure 2: Plot of publicly-available water level data for Ruby’s Inn wells

- We believe it is important to understand the probable extent of this the area of high transmissivity in the VFA beyond the Rubys Inn well area, and also what these data indicate about the potential for future groundwater diversions from the VFA.
- To provide context regarding the proportionate importance of these data on the Ruby’s Inn wells, we point out in regard to the data reported in the study’s Table 6 (pg. 60):
 - The most recent publicly reported diversions from these wells cited above represent approximately 60% of the estimated “Pumping Total;”

- Total groundwater storage in the bedrock aquifer?
 - The nature of groundwater storage in the bedrock aquifer (e.g., fractures, horizontal movement in relation to faults; vertical movement between formations, etc.)?
 - Long- and short-term fluctuations in groundwater storage in the bedrock aquifer?
 - Hydrogeologic connection(s) between the VFA and bedrock aquifer?
- With the proposed points of diversion (“hereafter PODs”) of most recent water right change applications likely to penetrate and divert from the bedrock aquifer, what is the applicability of the UGS study to this aquifer component with respect to the sustainable yield and administrative policies?

DIVISION OF WATER RIGHTS PUBLIC MEETING PRESENTATION: “WATER RIGHTS POLICY AND NEXT STEPS”

The DWRi presentation at the public meeting of November 14, 2024, identified and assessed potential appropriation policy implications of the UGS study’s findings, highlighting the earlier cited Table 6 from the study (pg. 60), and specifically noting the predominantly negative estimates of annual “Net Groundwater Change” in the VFA. The presentation also acknowledged that groundwater level measurements depicted in Figure 15 of the study (pg. 30) “. . . indicate stable groundwater levels.”

Under the heading “Key Findings and Concerns,” DWRi accentuated the importance of understanding how much groundwater discharge into the Johns Valley portion of the study area comes from Emery Valley portion. We recognize and concur with the importance of understanding the nature of this hydrologic connection between these portions of the study area in guiding appropriation policy.

To date, most – if not all – of the approved (and pending) change applications proposing to “import”⁹ water rights into Emery Valley have been based on rights originating in or downstream of Johns Valley. A primary consideration in granting those applications has been a recognition by DWRi of a “relatively (or sufficiently) direct hydrologic connection” between these two areas, recognizing that imported diversions from groundwater in Emery Valley can be expected to proportionately reduce discharges into Johns Valley. Importantly, it must also be recognized that only the *hydrologic depletion* portion of those changed diversions contributes to the anticipated reductions in discharges into Johns Valley and/or to localized changes in groundwater storage in the Emery Valley aquifer system.

The other side of the “hydrologic connection” consideration is that, upon initiating groundwater diversions in Emery Valley pursuant to an approved change application, the historically diverted (and depleted) surface water under the rights being changed will be left undiverted, thus offsetting and

⁹ The term “import” is used herein broadly to indicate a proposal to change the source/point of diversion of a water right from a location on the larger East Fork Sevier River drainage generally north of the “FLAKE MOUNTAIN” site (see UGS Figure 1, pg. 3), to a location in the developed/developing portion of the drainage to the south of that site.

mitigating the reduction in discharge from Emery Valley to Johns Valley. To the extent the UGS study addresses this consideration, *the study findings confirm the validity and correctness of this element of DWRI's past and present appropriation policy.*

Regarding the values in DWRI's presentation regarding current groundwater diversions authorized in Emery Valley – 550 acre-feet for perfected water rights; 330 acre-feet for pending/approved “import” change applications¹⁰ – we attempted to make a comparable inventory to verify those values (presentation slide captioned “Key Findings and Concerns”).

Attached as **Exhibit A** are two spreadsheets depicting our effort:

- The first tabulation (three pages) summarizes the perfected water rights generally within the area we have described as “Emery Valley;”
- The second (one page) lists the pending (approved but unperfected, or unapproved) change applications deemed to be importing water rights into the Emery Valley, generally to PODs south of Flake Mountain.

There are differences between our results and those presented by DWRI. We estimated the total diversions under perfected water rights at around 530 acre-feet, and under pending import applications at about 385 acre-feet, totaling 914 acre-feet. We believe those differences are primarily likely due to differing methods of calculating diversion amounts and, perhaps, the inclusion of a slightly different set of water rights/applications than those examined in the DWRI estimates.

In our opinion, the most important and pertinent point from this exercise is in examining the projected *groundwater depletion amounts* reflected in our tabulations, being approximately:

- 252 acre-feet for perfected water rights;
- 187 acre-feet for pending imported water rights;
- 439 acre-feet potential total if all pending imported rights are fully developed.

While the projected total depletion (assuming full development of all pending import applications) does represent a significant increase in groundwater depletions, the long-term trends of stable or rising groundwater levels in both the VFA and bedrock aquifer components –as acknowledged by the UGS study¹¹ – even during a time characterized by relatively persistent drought, suggests there is a significant amount of groundwater susceptible to development and beneficial use in the Emery Valley, pursuant to change applications filed and approved under existing statutes and policies.

For the sake of giving a sense of proportion and context to these estimates, the figures in the earlier cited Tables 5 and 6 of the UGS study indicated estimates of ***groundwater storage changes ranging from 10 times (Table 6, 2019 – 4,518 AF) to over 84 times (Table 5, 2019 – 37,018 AF) the total projected depletion with full development of all pending import applications.*** The estimated increase in

¹⁰ We use the term “perfected” for water rights originating and legally established in the study area south of Flake Mountain (see footnote above); some of these rights are under pending applications, but not of the type that proposes to import a new water right into the area; the term “import” is used as defined in the preceding footnote.

¹¹ “Based on the stability present in these water-level records, we conclude that long-term change in storage in the valley-fill aquifer is negligible.” (Water Level Trends, pg. 30)

depletions due to import change applications represents only 7% of the projected five-year Storage Change average from Table 5 (2,513 AF) and 10% of the Net Groundwater Change from Table 6 (1,801 AF). We cannot affirm this conclusively but expect these values are probably near or within the margin of error for the estimated averages in these tables.

Specifically addressing “Findings and Concerns” pertinent to Emery Valley, the DWRi presentation focused exclusively on the study’s findings relative to the VFA. Points of concern included the relatively shallow nature of the VFA, the aquifer’s sensitivity to local weather/climate (primarily precipitation), and a need to determine a “safe yield” for this aquifer.¹²

We acknowledge the general validity of those concerns, but question the decision to focus on the VFA in making decisions regarding appropriation policy. As detailed in our comments above regarding the importance of the bedrock aquifer in many existing and proposed public supply wells, we believe it would not be prudent to consider or adopt groundwater appropriation policy changes without full consideration of the larger Emery Valley aquifer system.

We recognize that DWRi is presently facing complex and daunting administrative challenges in several groundwater basins in Utah characterized by long-term and destructive groundwater declines. DWRi’s work to address those areas has included the adoption of Groundwater Management Plans as directed by UCA § 73-5-15. Essential elements of the authorizing statute include these definitions (**emphasis added**):

(1) *As used in this section:*

(a) *"Critical management area" means a groundwater basin in which the **groundwater withdrawals consistently exceed the safe yield.***

(b) *"Safe yield" means the amount of groundwater that can be withdrawn from a groundwater basin over a period of time **without exceeding the long-term recharge of the basin or unreasonably affecting the basin's physical and chemical integrity.***

The primary indicator that a groundwater basin is evidencing “groundwater withdrawals [that] consistently exceed the safe yield” is an acceptably valid and reliable long-term record of declines in groundwater levels. There is abundant and persuasive evidence reported in the UGS study to affirm that this requisite condition defining a “critical management area” is not met for Emery Valley.¹³

This conclusion is tangentially confirmed in the SUMMARY section of the UGS study (pg. 71, **emphasis added**):

The [basin-wide] soil-water balance indicated an average recharge to the valley-fill aquifer of about 9200 acre-feet/yr and average net loss of about 11,000 acre-feet/yr from 2017 to 2021, a time period

¹² DWRi’s presentation also noted a concern with “well-to-well interference.” We believe that, while that is certainly a legitimate issue, it has no specific relevance to policies governing Emery Valley. Extant statutes and case law thoroughly address the pertinent considerations (i.e., relative water right/application priority dates) that must be considered to resolve such disputes.

¹³ An alternative term for the condition as described in statute is “groundwater mining.” In response to a question specific to that issue at the public meeting, Janae Wallace, the study’s principal author, confirmed that the study did not find evidence of groundwater mining in the aquifers of Emery Valley.

*characterized by drought. Although **the long-term change in storage has been close to zero**, we recommend **careful water resource management for future development** given the observed quick response of groundwater levels to climate conditions on shorter timescales.*

We emphatically agree that “**careful water resource management for future development**” is prudent and commendable, not only for Emery Valley but in every case throughout Utah. For owners/users of water rights presently established for diversion and use in Emery Valley, or of other rights for which such diversion and use is proposed or contemplated, there is certainly a broad concurrence that answers to the questions raised in the DWRi presentation at the public meeting are essential to guiding future appropriation policy. To that end, we endorse the recommendation made by UGS at the public meeting that DWRi (or other relevant entity) “*install a nested piezometer in VFA & Bedrock well,*” together with taking other reasonable measures necessary to monitor local groundwater and to improve our understanding of all components of the Emery Valley aquifer system.

CONCLUSIONS

Until such time as additional study and – especially longer-term data collection on groundwater level trends – dictate otherwise, we conclude:

- The UGS Study is an excellent contribution to the understanding of groundwater in the Bryce area that will be useful to water professionals and decision makers for decades to come.
- However, the study does not indicate that groundwater withdrawals exceed recharge in either the VFA or bedrock aquifers, or that there is a long-term decline in storage.
- There is no imminent or urgent cause to propose updates or amendments to the appropriation policy presently governing applications in the Emery Valley.

Thank you for your careful consideration of these comments. We will readily respond to inquiries for additional details on the information upon which we have relied.

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Exhibit A

**TABULATIONS OF PERFECTED WATER RIGHTS
AND
PENDING “IMPORT” CHANGE APPLICATIONS
FOR
EMERY VALLEY GROUNDWATER**

EXISTING PERFECTED WATER RIGHTS
EMERY VALLEY AREA

WATER RIGHT	STATUS	OWNER(S)	DIVERSION QUANTITY (ACRE-FEET)	ESTIMATED DEPLETION QUANTITY (ACRE-FEET)	COMMENTS / DEPLETION NOTES AS OF NOV 2024
61-69	CERT	RUBY'S INN INC	161.7000	32.3400	61-69, 61-295 & 61-296 certificated for 14 EDUs; 1,000 persons per changes a10526, a14890; quantified for flow of 0.278 cfs, diversion allowance of 161.70 AF per Memo Dec of 02/25/1980. Depletion per Notes (1) & (2); assumes no wastewater reuse or lagoon seepage. Change Application a51692 filed 05/10/2024; currently UNAP; the application quantifies WRs 61-20, 44, 69, 295, 296, 492, 731 and 1445 (red text indicates UGW rights) as allowing diversion of 1.538 cfs & 82.72 AF; the contributions of the individual rights are not stated. Not considered an "import" and not included in change application tabulation.
61-96	CERT	GARFIELD COUNTY	0.5520	0.1473	Irrigation 0.034 acre; 1 EDU. See Notes (1) & (2)
61-100	CERT	USA - BLM	2.6600	0.4780	Estimated for 0.090 acre irrigation; 4.2 EDUs; Other (at 0.50 AF). See Notes (1) & (2); "Other" estimated at 20% depletion per Note (2).
61-126	CERT	TRU NORTH HOLDINGS LLC	1.6000	0.5220	See Notes (3) & (4)
61-133	CERT	USA - BLM	9.4117	1.9799	Estimated for 0.090 acre irrigation; 4.2 EDUs; Other (at 7.2517 AF). See Notes (1) & (2); "Other" estimated at 20% depletion per Note (2).
61-145	NPR	USA - USFS	1.8840	0.4440	Estimated for 4 EDUs, 3 ELUs. See Notes (3) & (4)
61-147	CERT	USA - BLM	14.4796	2.3635	Estimated for 0.09 acres irrigation; 8 EDUs; Other (at 10.6096 AF). See Notes (1) & (2); "Other" estimated at 20% depletion.
61-157	CERT	USA - USFS	0.6180	0.2580	Estimated for 6 ELUs; undefined EDUs (0.50 AF est.). See Notes (2) & (4).
61-295	CERT	RUBY'S INN INC	0.0000	0.0000	All prior beneficial uses converted via certificated changes a10526, a14890 under 61-69
61-296	CERT	RUBY'S INN INC	0.0000	0.0000	All prior beneficial uses converted via certificated changes a10526, a14890 under 61-69
61-365	CERT	BWID	11.0200	2.2040	Municipal. See Note (5).
61-382	CERT	BWID	7.6200	1.5240	Municipal. See Note (5).
61-388	CERT	UDOT	10.8597	2.1719	"Other" as certificated by DWRI. See Note (2).
61-415	CERT	BWID	2.6900	0.5380	1 EDU; "Other" at 2.24 AF. See Notes (2) & (3).
61-466	UGWC	DORR M. HATCH	3.0140	1.9961	Irrigation 0.50 acre; 38 ELUs; 1 EDU. See Notes (1), (2) & (4).

EXISTING PERFECTED WATER RIGHTS
EMERY VALLEY AREA

61-480	CERT	D.D. RESNEK /W.C. PRINGLE	1.5000	0.3000	1 EDU (not listed in certificate); unquantified "Other" for commercial (est.). See Notes (2) & (3).
61-492	CERT	RUBY'S INN INC	2.3200	2.3200	200 ELUs. See Note (4). Being changed to Municipal under a51692 (61-69, et.al.)
61-500	CERT	BRYCE CANYON HOTEL PARTNERS, LLC	3.0000	1.6842	Currently irrigation; being changed to commercial. This diversion/depletion not considered "import" under a44887; not included in change application tabulation. See Note (1).
61-549	CERT	LEON W. & VALERIE W. STEWART	2.7120	2.0231	0.25 acre irrigation; 54 ELUs; 1 EDU. See Notes (1), (2) & (4).
61-731	CERT	RUBY'S INN INC	0.5700	0.1574	0.04 acre irrigation; 1 EDU. See Notes (1) & (2). Being changed to Municipal under a51692.
61-830	CERT	D.D. RESNEK	0.4500	0.0900	1 EDU. See Note (2).
61-1138	CERT	BRYCE CANYON HOTEL PARTNERS, LLC	5.0000	1.0000	2 EDUs, commercial (restaurant, store, 12 rental cabins). See Notes (2) & (3).
61-1396	CERT	BWID	1.4600	1.4600	This diversion/depletion not included in change application tabulation; a30039 not considered an "import." Depletion limit set by OSE on a30039, 04/12/2006.
61-1397	UGWC	JT RANCH LLC	4.2083	2.0132	83 ELUs (seasonal 230 days; 1.4644 AF); 2.7439 AF "Other" (incidental camping use). See Notes (3) & (4).
61-1407	CERT	BWID	1.5000	0.3000	Commercial at 1.50 AF. See Note (3).
61-1445	CERT	RUBY'S INN INC	31.5000	6.3000	Per certificate (2004) for commercial (restaurant, motel & trailer park). Depletion @ 20% assumes no wastewater reuse. Being changed to Municipal under a51692 (61-69, et.al.)
61-1452	CERT	BWID	8.0000	1.6000	Municipal. See Note (5).
61-1466	CERT	TRU NORTH HOLDINGS LLC	18.1500	10.1894	Per certificate (2006) for irrigation of 6.050 acres. See Note (1).
61-1931	CERT	BWID	5.0000	1.0000	Municipal. See Note (5).
61-2616	CERT	BWID	2.9520	0.5904	Municipal. See Note (5).
61-2693	CERT	BRYCE CANYON WILDLIFE SAFARIS LLC	0.1680	0.1680	6 ELUs (as certificated in 2012). See Note (4).
61-2896	SHARE	JENSEN / COYOTE & EAST FORK IRR. CO	2.1000	1.1390	0.4566 acre irrigation; 10 ELUs; 1 EDU. See Notes (1), (2) & (4).
61-2999	CERT	KLC&D HOSPITALITY, ET AL.	4.0000	0.8000	This diversion/depletion NOT included in change application tabulation; a44648 not considered an "import." 9.0 EDUs. See Note (2).
61-3113	CERT	BWID	0.5000	0.1000	Commercial at 0.50 AF. See Note (3).
61-3177	CERT	TRU NORTH HOLDINGS LLC	1.0000	0.2000	This diversion/depletion not included in change application tabulation; a44608 not considered an "import." Commercial. See Note (3).

EXISTING PERFECTED WATER RIGHTS
EMERY VALLEY AREA

61-3213	CERT	WILLIAM LEVI HOLM	1.0000	0.2000	This diversion/depletion not included in change application tabulation; a45847 not considered "import." Commercial. See Note (3).
61-893	DEC	USA - NPS	0.0000	0.0000	Water right 61-893 originated in a decreed right to the Tropic & East Fork Irrigation Co. for surface water. By change application a3697 it was perfected (Certificate No. a1652) as a groundwater right in two wells near the East Creek channel for 0.25 cfs / 180.995 acre-feet/year. Water right 61-3100, below, as detailed in the Water Rights Agreement for the federal reserved right, is limited to an annual diversion of 184 AF and depletion of 156 AF, listed herein under WR 61-3100.
61-2450	CERT	USA - USFS	5.5000	1.1000	Recreation at Kings Creek campground (Tropic Reservoir). See Note (3).
61-121	CERT	USA - NPS	0.0000	0.0000	The diversion historically allowed under this right has been incorporated into the federal reserved water right 61-3100.
61-3100	FED RES	USDI - BRYCE CANYON NP	184.0000	156.0000	The DWRI-listed diversion of 184 AF and depletion of 156 AF under this federal reserved right is inclusive of the 180.995 AF historically listed for 61-893.
61-1143	DEC - CERT	USA - USFS	14.0000	14.0000	Supplemental for 500 ELU on grazing allotment; incidental wildlife use not quantified. See Note (4).
TOTALS FOR ALL RIGHTS LISTED:			528.6993	251.7014	
TOTALS FOR ALL PENDING CHANGE APPLICATIONS:			385.6038	186.6368	
TOTALS FOR ALL PERFECTED RIGHTS & PENDING CHANGES:			914.3031	438.3382	

NOTES:

- (1) Based on 56.14% (20.21") for irrigation at "Bryce Canyon City Station" USU Research Report 145.
- (2) Based on DWRI standard of 20% depletion of 0.45 AF/EDU w/on-site wastewater disposal.
- (3) Based on DWRI standard of 20% depletion for commercial w/on-site wastewater disposal.
- (4) Based on DWRI standard of 100% depletion for stockwatering use.
- (5) Based on DWRI standard of 20% depletion for municipal use in BWID w/on-site wastewater disposal.

PENDING CHANGE APPLICATIONS
EMERY VALLEY

WATER RIGHT	IMPORT CHANGE APPL. (Note 4)	CHANGE APPL. STATUS	OWNER(S)	DIVERSION QUANTITY (ACRE-FEET)	PROJECTED DEPLETION QUANTITY (ACRE-FEET)	COMMENTS / NOTES AS OF NOV 2024
61-1974	a46692	APP	7777, LLC	1.0000	0.5614	See Note (1); original use was irrigation.
61-2799	a44895	APP	KLC&D HOSPITALITY, ET AL.	25.0000	15.1900	Limit set in OSE on a44895, 03/19/2020.
61-2819	a44894	APP	KLC&D HOSPITALITY, ET AL.	10.5000	6.3800	Limit set in OSE on a44894, 03/17/2021.
61-3042	a46958	APP	A&E DEVELOPMENT, LLC	73.5000	33.1600	Limit set in OSE on a46958, 05/26/2022.
61-3134	a43287	APP	BWID / BENCH IRRIGATION CO	2.0268	1.3494	Limit set in OSE on a46958, 04/02/2019.
61-3142	a43479	APP	KB CEDAR LLC / BENCH IRRIGATION CO	16.2957	3.2590	Limit set in A-OSE on a43479, 05/06/2019.
61-3143	a43480	APP	UTAH SOUTH VINEYARDS / BENCH IRR CO	16.2957	3.2590	Limit set in A-OSE on a43480, 05/06/2019.
61-3144	a43481	APP	KBC, HERBERT, PITTS, BENCH IRRIGATION CO	14.5234	3.0043	Limit set in OSE on a43481, 04/02/2019.
61-3187	a44908	APP	BEDROCK, H TOWERS / BENCH IRRIGATION CO	78.5250	52.2819	Limit set in OSE on a44908, 06/15/2020.
61-3202	a45189	APP	TRU NORTH HOLDINGS, LLC	36.0000	23.9680	Limit set in OSE on a45189, 05/13/2020.
61-3237	a46178	APP	BWID / HOLM / BENCH IRR. CO.	16.2957	10.8947	Limit set in OSE on a46178, 05/10/2021.
61-3000	a42806	APP	OTT, ET AL. / COYOTE & EAST FORK IRR. CO	1.7580	1.3980	Limit set in OSE on a42806, 08/07/2018
61-3297	a47748	APP	KBC, BAMBAM / BENCH IRR CO	29.4930	19.0530	Limits set in OSE on a47748, 01/19/2023
61-3536	a52304	UNAP	SAMUEL SMITH / BENCH IRR CO	64.3905	12.8781	Depletion estimated per Note (3), municipal
			TOTAL OF ALL PENDING APPLICATIONS	385.6038	186.6368	
			TOTAL OF UNAPPROVED APPLICATIONS	64.3905	12.8781	
			TOTAL OF ALL APPROVED APPLICATIONS	321.2133	173.7587	

NOTES:

- (1) Based on 56.14% (20.21") for irrigation at "Bryce Canyon City Station" USU Research Report 145.
- (2) Based on DWRI standard of 20% depletion of 0.45 AF/EDU w/on-site wastewater disposal.
- (3) Based on DWRI standard of 20% depletion for municipal or commercial w/on-site wastewater disposal.
- (4) This listing is limited to change applications considered to be "importing" water rights from other areas into Emery Valley.