



# United States Department of the Interior



NATIONAL PARK SERVICE  
Water Resources Division  
1201 Oak Ridge Drive, Suite 250  
Fort Collins, CO 80525

January 14, 2025

Ms. Teresa Wilhelmsen, P.E.  
Division of Water Rights  
1594 West North Temple, Suite 220  
P.O. Box 146300  
Salt Lake City, UT 84114-6300

Re: Public comments regarding Emery/Johns Valley Appropriation Policy

Dear Ms. Wilhelmsen,

National Park Service (NPS) staff attended the November 14, 2024, Public Meeting concerning the groundwater resources and appropriation policy for Emery/Johns Valley that was held in Panguitch, UT. This was an informative meeting and both Janae Wallace of the Utah Geological Survey and Hayden Coombs of the Utah Division of Water Rights (DWRi) were excellent in conducting the meeting, presenting information, and answering questions. At the end of the meeting there was a request for comments on potential changes to the appropriation policy for this area. The NPS submits the following comments for your consideration:

As part of developing groundwater management plans, NPS urges the DWRi to consider, among the other statutory factors, the relationship between surface water and groundwater in this region – specifically recognizing that groundwater should be managed in conjunction with hydrologically connected surface waters. U.C.A. §73-5-15(3)(a)(iii). Bryce Canyon National Park (Park) holds water rights for springs whose flow is entirely dependent on aquifer groundwater levels. Without this recognition, NPS is concerned that generally applying the Safe Yield concept would allow groundwater withdrawals to lower groundwater levels within a basin until springflow decreases and eventually ceases. When springflow begins to decrease due to groundwater withdrawals, the Park's water rights will be impaired.

Water right impairment can occur long before Safe Yield is met in a basin and is often dictated by location of use rather than amount of use. For instance, if a pumping well is located such that pumping impacts affect a spring, springflow will decrease and may cease altogether long before groundwater withdrawals in a basin begin to equal long-term average recharge to a basin (Safe Yield). This was demonstrated by the NPS in its Protest of Application a52304, spring discharge will be affected by a well located 5 miles from



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the spring even though other parts of the basin are not affected. Impacts to springflow from groundwater pumping are dependent on several factors including the volume of water pumped, the distance from the pumping well to the spring, aquifer characteristics (storativity and transmissivity), existence of geologic and hydrologic barriers, the areal extent of the aquifer and the ability to induce recharge from other surface water sources. Basin recharge has no effect on the impacts of a pumping well on groundwater levels (see Theis, C. V., 1940. The source of water derived from wells: Essential factors controlling the response of an aquifer to development, *Civil Engineering*, **10**(5), 277-280).

Based on the above, the NPS recommends the DWRi evaluate the potential impacts to groundwater levels in aquifers that supply water to springs within the Park for each Application for Permanent Change of Water or new Application for Groundwater Diversion received, regardless of whether Safe Yield has been reached in the basin.

The Rubys Inn thrust fault offsets hydrostratigraphic units between Emery Valley and the Park. While additional work needs to be completed to confirm the concept, this thrust fault may act as a barrier to groundwater movement in the bedrock aquifers of Emery Valley. The NPS recommends the DWRi continue to work with the NPS to evaluate the influence of the Rubys Inn thrust fault on groundwater flow. If the thrust fault proves to be a barrier to flow, this will affect the safe yield of Emery Valley and limit the impact to the Park from pumping wells found on the other side of the thrust fault.

Safe Yield estimates apply to groundwater basins which are essentially the same as the overlying surface water basin. However, groundwater flow does not necessarily follow the surface water basins, especially in the bedrock aquifers in the area. For instance, the Park springs discharge into Basin 89 (Paria River) but receive most of their recharge from Basin 61 (Sevier River). This was not mentioned during the presentations and could affect the water budget for Johns Valley. The NPS recommends the DWRi manage the aquifers in the Emery Valley area not by surface water basin but by groundwater basin extent.

If you have any questions concerning these comments, please contact Jeff Hughes at email: [jeff\\_hughes@nps.gov](mailto:jeff_hughes@nps.gov), or telephone: (970) 225-3527.

Sincerely,



Jim Ireland, Superintendent  
Bryce Canyon National Park

Cc:

BRCA - Cockrell, Garrard  
SOL (Salt Lake City) - Hansen  
IMRO - Shafiqullah  
0662 - Fisk, Hughes