

ERRATA

HYDROGEOLOGIC RESEARCH PROJECT ENVIRONMENTAL ASSESSMENT Great Basin National Park

The comments section addresses comments received that warranted clarification or explanation. The Errata must be attached to the EA so as to comprise the full and complete record of environmental impact analysis completed.

CHANGES IN THE ENVIRONMENTAL ASSESSMENT TEXT

Summary page, third full paragraph: REPLACE “delineate the source of water to two important springs, refine estimates of how water is flowing from Spring Valley west of the Park to Snake Valley east of the Park, and conduct a dye tracing study to improve understanding of cave and surface-water connections.” WITH “delineate the source of water to an important spring, and conduct a dye tracing study to improve understanding of cave and surface-water connections.”

Page 3, DELETE “cave features and” from the second line. After the first sentence, ADD In addition, some cave features in the Baker Creek cave system within the park have been identified that were formed by groundwater flow (Lange 1954), and likely are still in connection with local groundwater today (David Prudic, verbal communication, 2011). Therefore, some cave features within the Park may also be susceptible to groundwater withdrawals in adjacent valleys.

Page 3, second full paragraph: first sentence INSERT “concerning Snake Valley” after “SNWA’s applications”

After (2) INSERT “local” before “groundwater flow model”

Page 4, Project Goals: REPLACE “four” with “three”

Third bullet DELETE everything after “Delineation of the source of water to Rowland Spring (the largest spring in the Park)”

DELETE Fourth bullet

Page 15, Monitoring wells: INSERT at end of Location and Depth paragraph: “All monitoring wells will be surveyed by the researchers, initially with a differential GPS, and eventually with a Total Station by qualified USGS personnel.”

Page 19, Second paragraph: ADD at end of paragraph: “Each well will be developed after drilling and well completion to remove soil and rock particles from the well, and to make sure that the well is in good hydraulic communication with the aquifer.”

Page 20, Aquifer Testing: After the sentence “At Site 2 (along the road to Cave Springs), water from the aquifer test would be piped from the well to the nearest ephemeral drainage.” INSERT “These distances are sufficient to prevent infiltration into the pumping well and influence the test results.”

Page 23, Stream gauge: INSERT at end of paragraph: “All stream gauge installations would follow appropriate ASTM, USGS, or equivalent procedures for data collection, processing, and storage.”

Page 25, Streamflow measurements: INSERT at end of paragraph: “All stream gauge measurements would follow appropriate ASTM, USGS, or equivalent procedures for data collection, processing, and storage.”

Page 25, Monitoring well cluster: INSERT at end of paragraph: “All monitoring wells will be surveyed by the researchers, initially with a differential GPS, and eventually with a Total Station by qualified USGS personnel.”

Page 27, first full paragraph: INSERT at end of paragraph: “Each well will be developed after drilling and well completion to remove soil and rock particles from the well, and to make sure that the well is in good hydraulic communication with the aquifer. Proper care will be taken on the annular seal for clustered wells. Wells will be slug tested to ensure annular seals are competent.”

Page 28, Water-quality Sampling: INSERT at end of paragraph: “All water chemistry sampling would follow appropriate ASTM, USGS, US Environmental Protection Agency, or equivalent procedures for well purging, sample collection, transport, and storage. Proper decontamination procedures would be followed prior to initial sample collection and between locations to minimize cross contamination and outside influence on sample results.”

Page 34, Table 4: INSERT

General Considerations	All equipment, boots, and waders entering streams should be properly decontaminated to prevent introduction of whirling disease and other diseases, parasites, and nonnative species into the stream. Only clean, disinfected boots, waders and other equipment will be allowed into the streams. All mud and debris should be rinsed from boots and equipment, which should be sprayed with a 10% chlorine solution and allowed to dry prior to entry into creeks. Cleaning and disinfectant procedures need to be followed before entering a different watershed.	NPS Hydrologist
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Page 36, last paragraph, last line: CHANGE “deleterious regional watershed impacts” TO “deleterious watershed impacts in Snake Valley in and adjacent to Great Basin National Park (BLM 2011)”.

Pages 50-51, Cumulative Impacts: In each of the cumulative impacts sections for the four alternatives, REPLACE “Future drilling and groundwater extraction by SNWA could lower the water table substantially, causing subsidence or sinkholes which could potentially affect park resources.”

WITH

“Current evidence indicates that it is likely that the water table will be lowered substantially (within at least some of the area of the proposed project of this EA) under some of the alternatives under consideration in the Groundwater Development Draft Environmental Impact Statement. This could cause subsidence (BLM 2011), which could potentially affect park resources.”

Page 57, Cumulative Impacts: REPLACE “Due to the removal of substantial amounts of groundwater from aquifers connected to the Park, the SNWA project would have adverse, direct, long-term, regional, major impacts on park resources.”

WITH “Due to the removal of substantial amounts of groundwater from aquifers within the Park that feed Park surface waters that the USGS has concluded are “likely susceptible to groundwater pumping in adjacent valleys (Elliott et al. 2006), the SNWA project would have adverse, direct, long-term impacts on park resources.”

Pages 58-59, Cumulative Impacts: In each of the cumulative impacts sections for alternatives 2-4, REPLACE “The SNWA project would have adverse, direct, long-term, regional, major impacts on park resources due to the removal of substantial amounts of groundwater from aquifers connected to the Park.” WITH “Due to the removal of substantial amounts of groundwater from aquifers within the Park that feed Park surface waters that the USGS has concluded are “likely susceptible to groundwater pumping in adjacent valleys (Elliott et al. 2006), the SNWA project would have adverse, direct, long-term impacts on park resources.”

Page 68, References: ADD Lange, A.L., 1954, Phreatic Floor Slot in Model Cave, Nevada: *in* Science, Vol. 120, No. 3131, pages 1099-1100.